Introduction

The U.S. Environmental Protection Agency (EPA) is requesting facility data and information to inform the Technology Review project for 40 CFR Sterilization source category. The purpose of this survey is to enable facilities to submit accurate facility information. For more detailed instructi the Section 114 transmittal letter at: https://www.epa.gov/stationary-sources-air-pollution/ethylene-oxide-emissions-standards-sterilization-fa

Instructions

This survey contains sheets and data fields shaded in different colors. As a general rule:

Sheets and fields shaded in blue indicate that reporters shall provide inputs according to the corresponding instructions
Sheets and fields shaded in gold contain instructions and supporting information that help reporters with this survey
Fields shaded in gray indicate that these either do not need to be filled out or will be automatically filled out based on reporter's inputs in relevanted in red by reporter indicate that these fields contain confidential business information (CBI), and relevant data needs special handle

* If any information you entered contains CBI, select "Yes" in the designated cell (Cell N2) in each tab throughout this survey, shade the fields contains specified in the Instructions Document

This survey contains the following tabs (You may click on the tab names below to visit each individual tab):

Introduction (this tab)	Introduction and instructions for completing and submitting this survey
Terms (link)	Definitions or explanations of certain technical terms that are mentioned throughout this survey
Facility Details (link)	Information about facility registration, ownership, general characteristics, facility-level data, legal docu
Room Area (link)	Characteristics, inventory of components and control of individual room areas where EtO is used or em
EtO & EG Storage (link)	Questions regarding EtO storage in drums and containers, and ethylene glycol (EG) tanks
Sterilizer Chambers (link)	Operation, monitoring and control characteristics of sterilizer chambers
Aeration (link)	Details of aeration equipment
APCD Summary (link)	Information about all air pollution control devices operated by facility
APCD Details (link)	Details regarding air pollution control devices such as scrubbers, catalytic oxidizers, thermal oxidizers, a
EtO Monitoring (link)	Information about workspace monitoring, personal monitoring, room monitoring, etc. conducted by fa-
Miscellaneous (link)	Questions regarding facility's wastewater treatment and other items of EtO commercial sterilization or
Additional Info (link)	Use this tab if you need extra space to provide any additional information requested within this survey
Attachments (link)	Designated fields for reporter to attach documents requested throughout this survey
Certification (link)	Reporter's information and certification for completing and submitting this survey

If you need extra space to provide any additional information within this survey, use the space provided in Section M in Additional Info tab

Submitting Completed Surveys

There are two ways to submit your survey that contains no CBI information:

(1) Save the completed survey on a CD, DVD or thumb drive, and mail it to:

U.S. Environmental Protection Agency

Office of Air Quality Planning and Standards

U.S. EPA Mailroom (E143-05)

Attn: Mr. Jonathan Witt

(2) Email to Mr. Jonathan Witt at: Witt.Jon@epa.gov

To submit your survey that does contain CBI information, see the Instructions Document to the Section 114 transmittal letter

part 63, subpart O, Commercial ons, see the Instructions Document to <u>cilities</u> (click to visit).

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Click here to return to introduction tab

1. Definitions

Term	Definition
Accelerated aeration	Aeration conducted in a heated aeration chamber or cell, not an aeration room, combined wi
Aeration cell/chamber	Any vessel that is used to facilitate off-gassing of ethylene oxide at a sterilization facility. If si
Aeration room	Any vessel or room that is used to facilitate off-gassing of ethylene oxide at a sterilization fac
Aeration room vent (ARV)	The point(s) through which the evacuation of ethylene oxide-laden air from an aeration room
Balancer/abator system	An air pollution control device (APCD) that consists of a combination of a water balancer and
Cascading air	Ventilation air removed from one room area or process, with a lower EtO concentration, is $v\epsilon$
Chamber exhaust vent (CEV)	The point(s) through which ethylene oxide-laden gas is removed from the sterilization chamb
Combination-chamber sterilizer	Any enclosed vessel in which both the sterilization process and the aeration process occur wi
Dwell period	The length of time that the product is exposed to ethylene oxide in sterilizer chamber for the
Engineering test	A test that measures the amount of pollutants being emitted, demonstrates the capture effic
Ethylene oxide (EtO) service	A piece of equipment either contains or contacts ethylene oxide as a liquid or gas at any cond
Fugitive emissions	Emissions (of ethylene oxide) which are not routed through the existing control equipment
Natural draft opening (NDO)	Any permanent opening in the enclosure that remains open during operation of the facility a
Performance test	A test that measures the amount of pollutants being emitted, demonstrates the capture effic
Research and laboratory facility	Any stationary source whose primary purpose is to conduct research and development into n
Single-item sterilizer	Any enclosed vessel in which sealed pouches containing product and ethylene oxide gas for t
Sterilization chamber vent (SCV)	The point (prior to vacuum pump) through which the evacuation of ethylene oxide from the
Sterilization facility	Any stationary source where ethylene oxide is used in the sterilization or fumigation of mater
Sterilization operation	Any time when ethylene oxide is removed from the sterilization chamber through the sterilization
Sterilizer chamber	Any enclosed vessel or room that is filled with ethylene oxide gas, or an ethylene oxide/inert

2. Acronyms

Acronym	Acronym Term		Term
APCD	air pollution control device	ID	identifier
ARV	Aeration room vent	in. H2O	inches of water
CAA	Clean Air Act	kWh	kilowatt hour
CBI	Confidential business information	LEL	lower explosive limit
CEMS			milligrams per liter
CEV	Chamber exhaust vent	NAICS	North American Industrial Classific
cfm	cfm Cubic feet per minute		natural draft opening
CFR	Code of Federal Regulations	ppmv	parts per million, volun
EG ethylene glycol		psig	pressure per square inch, į
EIS Emission Inventory System		QA	quality assurance
EPA Environmental Protection Agency		QC	quality control
EtO	ethylene oxide	R&D	research and developme
ICR	information collection request	SCV	sterilization chamber ve

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A. Facility Details

Table 1. Facility Information

Field#	A-1	A-2	A-3	A-4
Data	Primary NAICS	EIS ID	Facility name	Facility address
	code			
	Enter the primary NAICS code for the facility *		Enter facility name	Enter the street address of facility verified by U.S. Postal Service (USPS). Do <u>not</u> include P.O. box in this field
Response	561910	7582111	Sterigenics US LLC Santa Teresa	2400 Airport Rd

^{*} For assistance in determining your facility's NAICS code, see the website for the North American Industry Classification System (NAICS), mai

Table 2. Parent Company Information

Field#	A-13	A-14	A-15	A-16
Data	Parent company	Parent company address	Parent company	Parent company
Instruction	Enter parent company name	Enter the street address of parent company verified by U.S. Postal Service (USPS). Do <u>not</u> include P.O. box in this field	city Enter parent company city	state Select from the dropdown menu in this column
Response	Sterigenics US LLC	2015 Spring Road Suite 650	Oak Brook	IL

^{*} To determine the employee threshold for a small business, you may look up the small business size standard using six-digit NAICS codes. Th §121.201, "What size standards has SBA identified by North American Industry Classification System codes?", table "Small Business Size Stand Website for the Small Business Administration: https://www.sba.gov/. (click to visit)

Table 3. Facility Documents

Field #	A-21	A-22	A-23
Data	Facility diagrams	Process flow diagrams	Most recent air permit(s)
Instruction	Provide diagrams of your facility	Provide process flow diagrams of the	Provide the most recent air permit(s)
Response	Attach all requested documents in the	Attach all requested documents in	Attach all requested documents in the

Table 4. Facility Buildings

Field#	A-26	A-27	A-	28	Д	-29
Data	Building ID	Building height	Building corner 1		Building corner 2	
Instruction	Enter from permit description, if	Enter the (average) height of the	Enter the latitude of this building	Enter the longitude of this	Enter the latitude of this building	Enter the longitude of this building
	available. Otherwise, use a unique identifier	building (feet)	corner. Specify to the <u>6th</u> decimal	building corner. Specify to the 6th decimal	corner. Specify to the <u>6th</u> decimal	corner. Specify to the <u>6th</u> decimal
	for each building		F	point		

Code of Federal Regulations (CFR), part 121: https://www.ecfr.gov/cgi-bin/text-idx?SID=85df5b1185o8b127a9b324c6583f72c6&mc=true&nc

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right → If yes, be sure to shade the fields containing CBI in red, and follow the instructions specified in the Instructions Document

A-5	A-6	A-7	A-8	A-9	
Facility city	Facility state	Facility zip code	Phone number	Number of employees at facility	Operating status in current year
Enter facility city	dropdown menu in	Enter facility zip code verified by U.S. Postal Service (USPS)	phone number at	Select from the dropdown menu in this column. Full-time, part-time, and temporary employees should be counted equally	Select from the dropdown menu in this column
Santa Teresa	NM	88008	575-589-9300	≤ 100	Operating

ntained by the U.S. Census Bureau: https://www.census.gov/eos/www/naics/. (click to visit)

A-17	A-18	A-19	A-20
Parent company zip code	Phone number	Is parent company a small business?	Number of employees at parent company
company zip code verified by U.S.	Provide a contact phone number at the parent company	Select from the dropdown menu in this column. For more instructions, see the footnote below this table	Select from the dropdown menu in this column
60523	630-928-1700	No	751-1000

e size standards used to define Small Businesses are provided in 13 CFR 121, Small Business Size Regulations. See dards by NAICS Industry", column "Size standards in number of employees".

 $\underline{ide=pt13.1.121\&rgn=div5}$. (click to visit)

A-24	A-25
Application documents for the most	Startup, shutdown and malfunction
Provide the application documents for	Provide the startup, shutdown and
Attach all requested documents in the	Attach all requested documents in the

•	30 A-31 g corner 3 Building corner 4 (if any)		A-32 Building corner 5 (if any)		A- Building corr	
Enter the latitude	Enter the longitude	Enter the latitude	Enter the	Enter the latitude	Enter the	Enter the latitude
of this building	of this building	of this building	longitude of this	of this building	longitude of this	of this building
corner. Specify to	corner. Specify to	corner. Specify to	building corner.	corner. Specify to	building corner.	corner. Specify to
the <u>6th</u> decimal	the <u>6th</u> decimal	the <u>6th</u> decimal	Specify to the 6th	the <u>6th</u> decimal	Specify to the 6th	the <u>6th</u> decimal
point	point	point	decimal point	point	decimal point	point

A-10	A-11		A-12		
Comments	Operating hours		Is there a plan to	expand/modify/close this facility in the near future?	
If you choose an option other than "operating" in the previous column, please add a brief comment in this column	operating hours on average of the	operating hours on	Select from the dropdown menu in this column	Provide a short explanation if you select "Yes" on the left	
	24.00	8760.00	No (skip to A-13)	N/A	

33	A-34		A-35
ner 6 (if any)	Building co	rner 7 (if any)	Additional comments
corner. Specify to	Enter the latitude of this building corner. Specify to the <u>6th</u> decimal	Enter the longitude of this building corner. Specify to the 6th	Enter any additional comments that you may have regarding the information provided in this table about buildings and building corners
point	point	decimal point	

Response	ST Building	30.00	31.860060	-106.688001	31.860690	-106.687539
	ST Building Office	28.00	31.861171	-106.688412	31.861257	-106.688354
						000000000000000000000000000000000000000

Table 5. Facility-level Data

Field #	A-	36	A-37	A-38	
Data	EtO usage at your f	acility for the last 5	Materials sterilized at your facility	Percentage of total materials sterilized	
Instruction		Enter the corresponding EtO usage in this column (pounds)	List one type of material in each cell	Provide the approximate percentage or total materials sterilized with EtO base on volume of material throughput	
Response	2019	1,092,940.00	Medical Products	95.00%	
	2018	1,086,463.00	Spices	1	
	2017	999,804.00	Nutmeat		
	2016	1,015,733.00	Medical Products]	
	2015	1,008,672.00	Medical Products	1	

31.861218	-106.688531	31.860590	-106.688989	31.860400	-106.688646	31.860200
31.861350	-106.688509	31.861256	-106.688595			

A-39	A-40		A-41		A
Percentage of total materials sterilized	Annual EtO stack emissions of facility		Annual EtO <u>fugit</u>	Annual EtO <u>fugitive emissions</u> of	
Provide the approximate percentage of total materials sterilized with EtO based on dollar amount	in this column		in this column	annual EtO emissions in this column	Provide calculations documentation for be and fugitive emission emission factors use annual EtO emission
	2019	495.74	2019	552.07	
	2018	479.91	2018	545.63	Attach all requester
	2017	446.59	2017	499.90	"Attachm
	2016	458.80	2016	507.87	
	2015	452.09	2015	537.34	

-106.688788	31.860083	-106.688558	Corner 1 was the southwest most building corner; building

42	P	V-43	A-44 Average annual growth rate in revenues		
for annual EtO	Average annual e	nergy cost of facility			
and supporting noth stack emissions ns, including all d to determine the s	Enter the dollar <u>amount</u> in this column	Specify the dollar year in this column		Specify the dollar year in this column	
d documents in the ents" lab					

B. Individual Room Area (All Areas where EtO is Used or Emitted)

Table 1. Characteristics of Room Areas

Field #	B-1	B-2	B-3
Data	Room area ID for all rooms and areas where EtO is used or emitted	Category of the room area	Activities conducted in the ro
Instruction	Enter from permit description, if available. Otherwise, use a unique identifier for each room	Select from the dropdown menu in this column	Provide a brief explanation of the activiti each room
Response	Chamber Module 1	Sterilizer room area	Chamber sterilization and drum dispensir
	Chamber Module 2	Sterilizer room area	Chamber sterilization and drum dispensit
	Chamber Module 3	Sterilizer room area	Chamber sterilization and drum dispensir
	Chamber Module 4	Sterilizer room area	Chamber sterilization and drum dispensir
	AR08	Aeration room	Product aeration after chamber sterilizat
	AR09	Aeration room	Product aeration after chamber sterilizat
	Chamber and warehousing	Other (sterilizer area, receiving, and shipping)	Chamber sterilization and drum dispensir shipping and receiving of product.
	Scrubber Room	APCD room	Room for Ceilcote scrubber equipment

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right → If yes, be sure to shade the fields containing CBI in red, and follow the instructions specified in the Instructions Document

	B-4	B-5		B-6		B-7	
om area	Floor area	Room height		Temperature		Relative humidity	
es conducted in	(square feet)	(feet)	Enter temperature set point or range for summer in this column (Fahrenheit)	Enter temperature set point or range for winter in this column (Fahrenheit)	Enter temperature set point or range for intermediate seasons in this column (Fahrenheit)	Enter average or range of relative humidity (percent)	
ng for 2 chambers	2120.00	14.00	Parameter not recorded, data not	Parameter not recorded, data not	•	Parameter not recorded, data not	
ng for 2 chambers	2120.00	14.00	available Parameter not recorded, data not available	available Parameter not recorded, data not available	available Parameter not recorded, data not available	available Parameter not recorded, data not available	
ng for 2 chambers	2120.00	14.00	Parameter not recorded, data not available	Parameter not recorded, data not available	Parameter not recorded, data not available	Parameter not recorded, data not available	
ng for 1 chamber	1325.00	14.00	Parameter not recorded, data not available	Parameter not recorded, data not available	Parameter not recorded, data not available	Parameter not recorded, data not available	
ion	7055.00	28.00	120.00	120.00	120.00	Parameter not recorded, data not available	
ion	15224.00	28.00	115.00	115.00	115.00	Parameter not recorded, data not available	
ng for 4 chambers,	55487.00	28.00	Parameter not recorded, data not available	Parameter not recorded, data not available	Parameter not recorded, data not available	Parameter not recorded, data not available	
	1881.00	28.00	Parameter not recorded, data not available	Parameter not recorded, data not available	Parameter not recorded, data not available	Parameter not recorded, data not available	

	B-8	B-9	B-10	B-11
	Pressure drop	Air flow (ventilation)	Air flow (conditioned)	Number of air changes per hour
Enter the pressure drop across room area (inch H2O)	Specify definition of pressure drop, or locations based on which pressure drop is measured (e.g., farthest point to control device inlet)	Enter average or range of ventilation air flow (actual cubic feet per minute, acfm)	Enter average or range of conditioned air flow (actual cubic feet per minute, acfm)	Enter average or range of number of air changes per hour
Parameter not		Parameter not recorded,	Parameter not	Parameter not
recorded, data not available		data not available	recorded, data not available	recorded, data not available
Parameter not recorded, data not available		Parameter not recorded, data not available	Parameter not recorded, data not available	Parameter not recorded, data not available
Parameter not recorded, data not available		Parameter not recorded, data not available	Parameter not recorded, data not available	Parameter not recorded, data not available
Parameter not recorded, data not available		Parameter not recorded, data not available	Parameter not recorded, data not available	Parameter not recorded, data not available
Parameter not recorded, data not available		4480	Parameter not recorded, data not available	1.36
Parameter not recorded, data not available		8560	Parameter not recorded, data not available	1.2
Parameter not recorded, data not available		Parameter not recorded, data not available	Parameter not recorded, data not available	Parameter not recorded, data not available
Parameter not recorded, data not available		Parameter not recorded, data not available	Parameter not recorded, data not available	Parameter not recorded, data not available
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Table 2. Natural Draft Openings (NDO)

Field #	B-1			
Data	Room area ID for all rooms and areas where EtO is used or emitted			Natural
Instruction	This column will be auto-populated based on your entries in the previous fields		Orientation. Select from the dropdown menu in this column	
Response	Chamber Module 1	No Data Available		
	Chamber Module 2	No Data Available		
	Chamber Module 3	No Data Available		
	Chamber Module 4	No Data Available		
	AR08	No Data Available		
	AR09	No Data Available		
	Chamber and warehousing	No Data Available		
	Scrubber Room	No Data Available		

Table 3. Leak Checks of Components in EtO Service

If leak checks are performed on multiple types of components in a room area, repeat your entries in Fields B-1 and B-22 of this

Field #	B-1	B-22	B-23	B-24	B-25
Data	Room area ID for all rooms and areas where EtO is used or	Are leak checks performed in the room area?	Component type	Total component count	What is the percentage of components that
	emitted				are included in regular leak checks?

B-12						
raft opening (NDO)	1 (if any)					
Longitude. Specify to the <u>6th</u> decimal point	Cross-sectional area (square feet)	Height above the ground (feet)	Is air forced out of this NDO? Select from the dropdown	Air velocity (feet/minute)	NDO ID. Enter from permit description, if available.	
			menu in this column		Otherwise, use a unique identifier for each NDO	column

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5 table, then enter corresponding data for each component type

B-26	B-27	B-28
Frequency of leak checks	Average length of	Instrument and standard method for leak checks
	time to perform	
	leak checks	

		N	B-13 atural draft opening (NDO) 2	(if any)					
from the dropdown	Latitude. Specify to the <u>6th</u> decimal point	Longitude. Specify to the <u>6th</u> decimal point	Cross-sectional area (square feet)	Height above the ground (feet)	Is air forced out of this NDO? Select from the dropdown menu in this column				
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B-29	B-30
Leak check procedure	Average cost per inspection

Air velocity (feet/minute)	NDO ID. Enter from permit description, if available. Otherwise, use a unique identifier for each NDO	Orientation. Select from the dropdown menu in this column

B-31	B-32
Average percentage of leaking components identified	Definition of leak

81.1 1.1 C	B-14					
inatural draft	opening (NDO) 3 (if any	7)				
atitude. Specify to the <u>6th</u> decimal point	Longitude. Specify to the <u>6th</u> decimal point	Cross-sectional area (square feet)	Height above the ground (feet)	Is air forced out of this NDO? Select from the dropdown	(feet/minute)	
	point	(square reet)	(reer)	menu in this		
				••••		

B-33	
Applicable state/local regulations	Repa

				B-15		
			Natural draf	t opening (NDO) 4 (if any)	
NDO ID. Enter from permit description, if available. Otherwise, use a unique identifier for each NDO	Type. Select from the dropdown menu in this column	Orientation. Select from the dropdown menu in this column	Latitude. Specify to the <u>6th</u> decimal point	Longitude. Specify to the <u>6th</u> decimal point	Cross-sectional area (square feet)	Height above the ground (feet)

B-34	B-35	B-36
iir method/procedure for the leaks identified	Average cost per repair for leaks identified	Are there any specialty components that are not readily available on site and that
		need to be ordered in the event of a
		component replacement?

		T .				B-16
					Natural dr	aft opening (NDO)
Is air forced out of this NDO? Select from the dropdown menu in this column	Air velocity (feet/minute)	NDO ID. Enter from permit description, if available. Otherwise, use a unique identifier for each NDO	Type. Select from the dropdown menu in this column	Orientation. Select from the dropdown menu in this column	Latitude. Specify to the <u>6th</u> decimal point	Longitude. Specify to the <u>6th</u> decimal point
		THE PROPERTY OF THE PROPERTY O				

B-37
Are there any other impediments that would prevent immediate repair of leaks?

5 (if any)						
Cross-sectional area (square feet)	Height above the ground (feet)	Is air forced out of this NDO? Select from the dropdown menu in this column	Air velocity (feet/minute)	NDO ID. Enter from permit description, if available. Otherwise, use a unique identifier for each NDO	Type. Select from the dropdown menu in this column	Orientation. Select from the dropdowr menu in this column

	B-17					<u> </u>
Natural draft o	pening (NDO) 6	(if any)				
atitude. Specify to	Longitude.	Cross-sectional	Height above	Is air forced out of	Air velocity	NDO ID. Enter
he <u>6th</u> decimal	Specify to the	area	the ground	this NDO? Select	(feet/minute)	from permit
ooint	6th decimal	(square feet)	(feet)	from the dropdown		description, if
	point			menu in this		available.
				column		Otherwise, use a
						unique identifier
						for each NDO

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Type. Select from the dropdown menu in this column	Orientation. Select from the dropdown menu in this column	Longitude. Specify to the <u>6th</u> decimal point	Cross-sectional area (square feet)	Height above the ground (feet)	Is air forced out of this NDO? Select from the dropdown menu in this column

					B-19	
				Natural draft i	opening (NDO) 8	3 (if any)
Air velocity feet/minute)	NDO ID. Enter from permit description, if available. Otherwise, use a unique identifier for each NDO	Type. Select from the dropdown menu in this column	Orientation. Select from the dropdown menu in this column		Longitude. Specify to the 6th decimal point	Cross-sectional area (square feet)

						Natural draft
Height above the ground (feet)	Is air forced out of this NDO? Select from the dropdown menu in this column	(feet/minute)	NDO ID. Enter from permit description, if available. Otherwise, use a unique identifier for each NDO	Type. Select from the dropdown menu in this column	Orientation. Select from the dropdown menu in this column	

ening (NDO) 9	(if any)					
retining (1400) 3	(ii dily)					
	To	1,, , , , ,	1	la: L :	NBO ID E I	T
Longitude. Specify to the <u>Sth</u> decimal point	Cross-sectional area (square feet)	Height above the ground (feet)	Is air forced out of this NDO? Select from the dropdown menu in this column	(feet/minute)	NDO ID. Enter from permit description, if available. Otherwise, use a unique identifier for each NDO	Type. Select from the dropdown menu in this column
	***************************************		***************************************		***************************************	***************************************

		B-21				
	Natural draft o	pening (NDO) 10	O (if any)			
Orientation. Select	Latitude. Specify to the <u>6th</u> decimal	Longitude. Specify to the	Cross-sectional area	Height above the ground	Is air forced out of this NDO? Select	Air velocity (feet/minute)
nenu in this olumn	point	<u>6th</u> decimal point	(square feet)	(feet)	from the dropdown menu in this column	
			ļ			
			<u> </u>			

Instruction	Select from the	Select from the	Select from the	Specify the total	Specify the
	dropdown menu.	dropdown menu in	dropdown menu in		percentage of
	Scroll up to see	this column	this column	component of this	components that
	options that are auto-			type	are included in
				type	
	populated based on				regular leak checks
	your entries in the				(percent)
	previous fields				
Response	Chamber Module 1	Yes	Other (double click to specify)		
	Chamber Module 2	Yes	Other (double click		
	Chamber Wodule 2	163	1		
	Claration National Laboration	V	to specify)		
	Chamber Module 3	Yes	Other (double click		
			to specify)		_
	Chamber Module 4	Yes	Other (double click		
			to specify)		
	Aeration 8	Yes	Other (double click		
			to specify)		
	Aeration 9	Yes	Other (double click		
			to specify)		
			12 00 011 7)		

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		T			T

Table 4. Room Area Controls

Specify how often leak checks are	Enter average	Briefly describe the instrument and standard method used for leak checks
performed	length of time to	, and the second
	perform leak	
	checks per	
	component type,	
	per inspection	
	(hours)	
The facility monitors ethylene oxide		
from fixed check points for employee		
The facility monitors ethylene oxide		
from fixed check points for employee		
The facility monitors ethylene oxide		
from fixed check points for employee		
The facility monitors ethylene oxide		
from fixed check points for employee		
The facility monitors ethylene oxide		
from fixed check points for employee		
The facility monitors ethylene oxide		
from fixed check points for employee		

	_	
		

Describe the leak check procedure for each room area. Specifically, provide any action levels	Enter the dollar amount in this column	Specify the dollar year in this column

Enter average percentage of leaking components identified	If applicable, specify the definition or criteria of leak in the sta
during each leak check	leak checks, or the definition that facility refers to
(percent)	

ate/local regulations that require	Specify any state/local regulations applicable to your facility for leak checks	Provide a brief descridentified

iption of the repair method/procedure for the leaks	Enter the dollar	Specify the	Select from the	How long does it
	amount in this	dollar <u>year</u> in	dropdown menu in	take, on average, for
	column	this column		the facility to
				receive the
				components?
				(days)
				(if you select "Yes"
				on the left)
				<u> </u>

		1		
		<u> </u>	***************************************	

		1		
				
		-		
		-		

Select from the	List the impediments that would prevent immediate repair of leaks
dropdown menu in	(if you select "Yes" on the left)
this column	(II you select 165 on the left)





Field #	B-1	B-38		В-
Data	Room area ID for all rooms and areas where EtO is used or emitted	Is air from the room area vented to an APCD, used as cascading air, vented to the atmosphere, or handled in any other ways?		APCD 1 for
				1
Instruction	This column will be auto-populated based on your entries in the previous fields		APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the drop column If you select "Other specify)", be sure to between the parentle
Response	Chamber Module 1	Atmosphere (fill out B-58 through B-60)		
, neoponio	Chamber Module 2	Atmosphere (fill out B-58 through B-60)		
	Chamber Module 3	Atmosphere (fill out B-58 through B-60)	***************************************	
	Chamber Module 4	Atmosphere (fill out B-58 through B-60)		
	AR08	APCD (fill out B-39 through B-56)	CD-3	Catalytic
	AR09	APCD (fill out B-39 through B-56)	CD-3	Catalytic
	Chamber and warehousing	Atmosphere (fill out B-58 through B-60)		
	Scrubber Room	Atmosphere (fill out B-58 through B-60)		

39			B-40		
room area					
down menu in this (double click to type your entries heses "()"		APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"		APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD
oxidizer	5000.00				
oxidizer	10000.00				

B-41	B-42	B-43	B-44	
APCD 3 for room area (if any)		Material of duct work for room area venting	Total length of duct work for room area venting	
Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"	Enter the average air flow routed from the room to this APCD (actual cubic feet per minute, acfm)	Specify the material of duct work	Enter the <u>total</u> length of duct work (feet)	Enter the <u>average</u> thickness of duct work (inches)
		Galvanized Sheet Metal	206.70	0.06
		Galvanized Sheet Metal	139.97	0.06
		Galvanized Sheet Metal	142.50	0.06
		Galvanized Sheet Metal	92.90	0.06
		Galvanized Sheet Metal	119.50	0.06
		Galvanized Sheet Metal	52.91	0.06
		N/A		
		N/A		
	_			

B-45	B-46	B-47	B-48
Is the cross section of duct work for room area venting circular or rectangular?	Diameter of duct work (For circular duct work only)	Cross-sectional height of duct work (For rectangular duct work only)	Cross-sectional width of duct work (For rectangular duct work only)
Select from the dropdown menu in this column	Enter the <u>average</u> diameter of duct work (feet)	Enter the <u>average</u> cross-sectional height of duct work (feet)	Enter the <u>average</u> cross-sectional
Rectangular (fill out B-47/48 & B-51/52 as appropriate) Rectangular (fill out B-47/48 & B-51/52 as appropriate) Rectangular (fill out B-47/48 & B-51/52 as appropriate)			
Rectangular (fill out B-47/48 & B-51/52 as appropriate)			
Circular (fill out B-46 & B-50 as appropriate)			
Circular (fill out B-46 & B-50 as appropriate)			

B-49	B-49 B-50		В	-51	B-5	
Are the dimensions of duct work constant throughout?		f duct work	Cross-sectional height of duct work (For rectangular duct work only)		Cross-sectional w (For rectangular	
Select from the dropdown menu in this column	Enter the maximum diameter of duct work (feet)	Enter the minimum diameter of duct work (feet)	Enter the maximum cross- sectional height of duct work (feet)	Enter the minimum cross-sectional height of duct work (feet)	maximum cross-	
N. /511 - A A C - L1 - A			4.50	0.50	1.00	
No (fill out respective fields)			1.50	0.58	1.00	
No (fill out respective fields)			1.00	0.67	1.00	
No (fill out respective fields)			0.67	0.67	1.00	
No (fill out respective fields)			1.33	0.67	1.00	
No (fill out respective fields)	3.00	2.67				
No (fill out respective fields)	2.33	1.17				

52	B-53	B-54	B-55		B-56		
dth of duct work duct work only)	Year in which duct work was installed	Expected lifetime of duct work	Capital cost of duct work for room area venting (estimated or actual)		Installation cost of duct work for room area venting (estimated or actual)		
Enter the minimum cross- sectional width of duct work (feet)	Enter the calendar year	Enter the expected lifetime of duct work (years)	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	Enter the dollar amount in this column	Specify the dollar year in this column	
0.33 0.33 0.33							
0.33							

B-57	B-58			
Room area air used as cascading air for reuse in another room or unit (for cascading only)	Stack ID to which the uncontrolled room area vents (for room area vented to the atmosphere only)	(for room a		
Specify the room area ID or unit ID the air is vented to if the room area air is used as cascading air for reuse in another room or unit (i.e., vented as the input air to another area). If more than one room area/unit is involved list all the IDs separated by commas	Enter from permit description, if , available. Otherwise, use a unique identifier for each stack	Enter the stack height (feet)	Enter the stack diameter (feet)	
	ST1_2	8.00	1.00	
	ST3_4	8.00	1.00	
	ST5_6	8.00	1.00	
	ST7	8.00	1.00	
	•			

Stack parameter a vented to the atmo				60	B-6		
a vented to the atmosphere only)		(for room area atmosph	ordinates I vented to the ere only)	Other handling of ai			
temperature at v		Enter the volumetric flow	Enter the latitude of stack. Specify to the <u>6th</u> decimal	Enter the longitude of stack. Specify to the <u>6th</u> decimal point	Provide a brief description of any air pollif air from this room area is not: vented to the atmosphere		
			31.860800	-106.688720			
			31.860670	-106.688590			
			31.860680	-106.688520			
			31.860670	-106.688350			
			•				
-							

from room area								
ition control or h	ıar	ndl	ing	3 p	ro	ce	du	re
an APCD; used	as	ca	sca	adi	ing	ai	г;	or
140,111,111,111,111,111,111,111,111,111,								



Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

C. EtO Drum and Container Storage

Field #	Data	Instruction	
C-1	How many EtO drums and/or containers are typically stored at the facility at once?		47
C-2	Permitted amount of EtO storage	(pounds)	20,000.00
C-3	Is there a designated area for storing EtO drums	Select from the dropdown menu	Yes
C-4	Describe the designated area for EtO drum and/or		Exterior storage area
C-5	Describe the storage location for full and empty		Outside/enclosed sp
C-6	Specify the maximum number of full EtO storage		Forty-nine 400 poun
C-7	Is the ambient air in the storage areas continually	Select from the dropdown menu	Yes
C-8	Describe the make/model and range of the		1. LEL Detector SMC
C-9	How often are new drums or containers delivered to		Twice per week.
C-10	What is the procedure for checking drums or		Leak tests are perfor
C-11	Are drums or containers placed next to sterilizer	Select from the dropdown menu	Yes
C-12	Describe how EtO is charged to the sterilizer chamber		Each chamber has a

D. Ethylene Glycol (EG) Tanks

Field#	D-1	D-2	D-3	D-4	D-5	D-6
Data	Ethylene glycol (EG) tank ID	Material	Capacity	Throughput	Year in which EG tank was installed	Expected lifetime of EG tank
Instruction	Enter from permit description, if available. Otherwise, use a unique identifier for each EG tank	Specify the material of EG tank	Enter the capacity of EG tank (gallons)	Enter the average daily throughput of EG tank (gallons per day)	Enter the calendar year	Enter the expected lifetime of EG tank (years)
Response	CD-2 Tank	Fiberglass	17000.00		2004	

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right →
If yes, be sure to shade the fields containing CBI in red, and follow the

Response
3. Well ventilated. Secure.
ace. 25% cinderblock wall, 50% concrete tilt-up spec wall, 25% ventilation. Secured access.
d drums
(Model # 5100-28-IT-A1-01-01-0-0), 2. SRI Air Monitoring System Model 8610 GC
med on all drums prior to receiving. If leak is detected, drum is not received. Supplier is responsible for
dedicated EO gassing station located next to or near the chamber. EO is charged from the drum into a vaporizer

D-7		0	i-8	0	D-10					
Capital co			Capital cost of EG tank				Installation cost of EG tank Annual cost of E		it of EG tank	Is the EG tank routed to any control device?
Enter the dollar amount in this column	Specify the dollar year in this column	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	Select from the dropdown menu in this column				
						Yes (fill out D-11 through D-27)				

	D-11	D-12		
	APCD 1 for EG tank			APCD 2 for EG tank (if any)
APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"	Enter the <u>average</u> air flow routed from the tank to this APCD (actual cubic feet per minute, acfm)	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"
CD-2	Wet scrubber	2000.00		

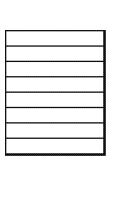
	D-13	D-14	D-15	D-16	D-17	D-18
	Material of duct	Total length of	Average thickness	Is the cross section	Diameter of duct	Cross-sectional
	work for EG tank	duct work for EG	of duct work for	of duct work for EG	work	height of duct work
		tank	EG tank	tank circular or	(For circular duct	(<u>For rectangular</u>
				rectangular?	work only)	duct work only)
Enter the <u>average</u>	Specify the	Enter the <u>total</u>	Enter the <u>average</u>	Select from the	Enter the <u>average</u>	Enter the <u>average</u>
air flow routed	material of duct	length of duct	thickness of duct	dropdown menu in	diameter of duct	cross-sectional
from the tank to	work	work	work	this column	work	height of duct work
this APCD		(feet)	(inches)		(feet)	(feet)
(actual cubic feet						
per minute, acfm)						
	Stainless Steel Pipe	330.00	0.06	Circular (fill out D-		
				17 & D-21 as		
				appropriate)		

D-19	D-20	D-21		D-22		D-:
Cross-sectional width of duct work (For rectangular duct work only)	Are the dimensions of duct work constant throughout?	Diameter of duct work (For circular duct work onl		Cross-sectional h (For rectangula	Cross-sectional w (For rectangular	
Enter the <u>average</u> cross-sectional width of duct work (feet)	Select from the dropdown menu in this column	Enter the maximum diameter of duct work (feet)	Enter the minimum diameter of duct work (feet)	Enter the maximum cross-sectional height of duct work (feet)	Enter the minimum cross-sectional height of duct work (feet)	maximum cross-
	No (fill out respective fields)	0.80	0.20			

23	D-24	D-25	D-26		D-27	
idth of duct work duct work only)	Year in which duct work was installed	Expected lifetime of duct work Enter the expected lifetime of duct work (years)			Installation cost of duct work for EG tank (estimated or actual)	
Enter the minimum cross-sectional width of duct work (feet)	Enter the calendar year		Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column
	2004					

D-28			D-29			D-
Stack ID to which the <u>uncontrolled</u> EG tank vents (<u>for uncontrolled</u> EG tank only)		Stack coc (for uncontrolle				
Enter from permit description, if available. Otherwise, use a unique identifier for each stack	Enter the stack height (feet)	Enter the stack diameter (feet)	Enter the temperature at stack outlet (Fahrenheit)	Enter the exhaust velocity at stack outlet (feet/second)	Enter the volumetric flow rate at stack outlet (cubic feet/second)	Enter the latitude of stack. Specify to the <u>6th</u> decimal point

d EG tank only) Enter the longitude of stack. Specify to the 6th	
Enter the longitude of stack. Specify to the decimal point	30
Enter the longitude of stack. Specify to the <u>6th</u>	
longitude of stack. Specify to the <u>6th</u>	a Editalik Olliy)
longitude of stack. Specify to the <u>6th</u>	
Specify to the <u>6th</u>	
	-



Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

Luck nere to return to introduction tab	

E. Sterilization Chambers

Table 1. Summary for Sterilizer Chambers

	,,	
Field #	Data Response	
E-0	Enter the total number of sterilizer chambers at your facility 13	

Table 2. Sterilizer Chamber Operation and Monitoring Characteristics

Field #	E-1	E-2	E-3	E-4	E-5	E-6
Data	Sterilizer unit ID	Associated EIS release point ID	Is this an R&D chamber (under the definition of research and laboratory facility)?	Does aeration of the sterilized product occur in the same sterilizer chamber?	Is this a single-item chamber?	Volume of sterilizer chamber
Instruction	Enter from permit description, if available. Otherwise, use a unique identifier for each sterilizer	Enter the EIS release point ID associated with the sterilizer unit, if any	Select from the dropdown menu in this column	Select from the dropdown menu in this column (If you select "Yes" for any sterilizer, fill out Table 3 in Aeration tab)	Select from the dropdown menu in this column	(cubic feet)
Response	Chamber 1		No	No	No	1353.00
	Chamber 2		No	No	No	1353.00
	Chamber 3		No	No	No	1353.00
	Chamber 4		No	No	No	1353.00
	Chamber 5		No	No	No	1353.00
	Chamber 6		No	No	No	1353.00
	Chamber 7		No	No	No	1353.00
	Chamber 8		No	No	No	5310.00
	Chamber 9		No	No	No	5310.00
	Chamber 10		No	No	No	5138.00
	Chamber 11		No	No	No	2704.00
	Chamber 12		No	No	No	3916.00
	Chamber 13	/·	No	No	No	5138.00
	Chamber 14	(installation in process)				
					l	

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right → If yes, be sure to shade the fields containing CBI in red, and follow the instructions specified in the Instructions Document



E-7	E-8		E-9			
How many cycles	Temperature		Relative humidity			
per year are	(For combination sterilizers, enter temperature for sterilization mode only)					
conducted in the						
sterilizer chamber	-					
in total?						
	Enter the <u>average</u>	Enter the	Enter the minimum		Enter the	Enter the
	temperature of	<u>maximum</u>	temperature of	relative humidity	<u>maximum</u> relative	minimum relative
	sterilizer chamber	temperature of	sterilizer chamber	within sterilizer	humidity within	humidity within
	when in operation	sterilizer chamber	when in operation	chamber when in	sterilizer chamber	sterilizer chamber
	(Fahrenheit)	when in operation	(Fahrenheit)	operation (percent)	when in operation	when in operation
		(Fahrenheit)			(percent)	(percent)
903	1153	450	105	20.52	E0.00	17.44
802	116.3	150	105	38.53	58.98	17.44
664	128.28	150	115	30.21	58.98	17.44
352	132.76	150	120	21.19	22.81	17.44
709	126.4	140	105	26.42	55.6	22.53
709	127.63	140	110	33.32	78.02	22.81
783	130.05	150	120	24.36	33.23	17.44
709	122.63	135	110	59.92	78.02	29.01
658	130.96	150	120	31.01	48.98	17.44
654	133.59	140	125	22.29	27.47	20.25
704	135	140	125	20.25	20.25	20.25
785 715	131.18 125.84	150 135	120 120	25.62 44.7	27.47 46.68	17.44 35
622	 	140	120			20.25
622	133.87	140	120	32.01	66.09	20.25
	***************************************		-			
						
***************************************						***************************************

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E-10		E-11		E-12		T .
Pres	sure	Does the sterilizer chamber have positive pressure cycles?	EtO dose per cycle			Number
Enter the <u>average</u> <u>pressure</u> within the chamber during EtO dwell period (psig)	Enter the magnitude of vacuum on average that is applied during evacuation (psig)		Enter the <u>average</u> EtO dose per cycle (mg/L)	Enter the maximum EtO dose per cycle (mg/L)	Enter the minimum EtO dose per cycle (mg/L)	Enter the <u>average</u> number of nitrogen washes per cycle
-3.38	-10.6	No	612.48	673.76	470.92	2
-1.61	-8.27	No	516.25	779.84	470.92	4
-2.34	-10.37	No	484.57	495.37	355.93	3
-1.54	-6.72	No	497.13	617.82	383.31	5
-0.9	-7.03	No	473.17	612.73	445.62	12
-1.43	-6.49	No	491.13	602.34	470.92	6
-2.05	-11.68	No	527.39	779.84	445.62	21
-2.2	-10.64	No	570.27	602.34	434.38	5
-1.27	-7.3	No	505.26	602.34	466.96	5
-0.74	-5.55	No	466.96	466.96	466.96	6
-2.58	-11.69	No	574.84	602.34	355.93	3
-1.21	-10.47	No	521.14	640.67	497.04	3
-0.66	-6.11	No	466.13	640.67	434.38	7

E-13		E-14			E-15		
of nitrogen washes	of nitrogen washes per cycle		Nitrogen used for washes during each cycle			Annual cost of nitrogen washes	
Enter the maximum number of nitrogen washes per cycle	Enter the <u>minimum</u> number of nitrogen washes per cycle		Enter the maximum amount of nitrogen used during each cycle (pounds)	Enter the minimum amount of nitrogen used during each cycle (pounds)		Specify the dollar year in this column	
6	1	137.1	283.19	41.64			
8	2	202.46	283.19	41.64			
6	2	92.12	283.19	29.41			
6	2	250.66	283.19	42.94			
41	2	302.17	435.26	89.74			
6	2	249.79	283.19	41.64			
41	2	266.83	435.26	79.4			
10	2	567.35	732.43	163.42			
6	4	944.43	1,102.08	544.75			
6	6	1,066.38	1,066.39	1,066.39			
4	2	230.29	277.4	58.77			
8	2	397.16	749.01	326.2			
10	2	911.15	1,066.39	427.99			
			B		L		

E-16			E-1			
Number of air washes per cycle			Air used	Annual cost o		
Enter the <u>average</u> number of air washes per cycle	Enter the maximum number of air washes per cycle	Enter the minimum number of air washes per cycle	Enter the <u>average</u> amount of air used during each cycle (pounds)	Enter the maximum amount of air used during each cycle (pounds)	Enter the minimum amount of air used during each cycle (pounds)	Enter the dollar amount in this column
	10	0	72.14	414.93	F8 28	
3	19 29	0	73.14 229.27	414.83 732.11	58.28 58.28	
20	29	0	598.46	732.11	144.78	
0	29	0	284.67	732.11	58.28	
0	0	0	0	0	0	
0	29	0	573.47	732.11	414.83	
0	1	0	58.28	58.28	58.28	
3	29	0	1,715.26	2,873.24	1,597.95	
0	0	0	0	0	0	
0	0	0	0	0	0	
6	29	0	1,159.38	1,463.13	289.34	
1	1	0	168.69	168.69	168.69	
4	15	0	1,161.55	1,546.19	221.33	

8	E-19	E-20		E-21	E-22
f air washes	Average electricity used per gas wash (nitrogen washes and air washes combined)	Annual cost of electricity for gas washes (nitrogen washes and air washes combined)		Are leak checks performed on sterilizer chamber?	Frequency of leak checks for sterilizer chamber
Specify the dollar <u>year</u> in this column	(kWh)	Enter the dollar amount in this column		Select from the dropdown menu in this column	Specify the frequency of leak checks for sterilizer chamber
				Yes	Before each cycle and semi-annually
				Yes	Before each cycle and semi-annually
***************************************				Yes	Before each cycle and semi-annually
				Yes	Before each cycle and semi-annually
***************************************				Yes	Before each cycle and semi-annually
				Yes	Before each cycle and semi-annually
				Yes	Before each cycle and semi-annually
***************************************				Yes	Before each cycle and semi-annually
***************************************				Yes	Before each cycle and semi-annually
				Yes	Before each cycle and semi-annually
				Yes	Before each cycle and semi-annually
				Yes	Before each cycle and semi-annually
				Yes	Before each cycle and semi-annually

		***************************************		***************************************	

E-23	E-24	E-25			
Average length of time to perform a leak check	Leak check procedure(s) for sterilizer chamber	Annual cost of leak checks for sterilizer chamber			
Enter average length of time to perform a leak check (minutes)	Provide a brief description of the leak check procedure(s) for sterilizer chamber	Enter the dollar Specify the amount in this column this column			
10.00	Leak checks on sterilization chambers are conducted prior to each sterilization				
10.00	Leak checks on sterilization chambers are conducted prior to each sterilization				
10.00	Leak checks on sterilization chambers are conducted prior to each sterilization				
10.00	Leak checks on sterilization chambers are conducted prior to each sterilization				
10.00	Leak checks on sterilization chambers are conducted prior to each sterilization				
10.00	Leak checks on sterilization chambers are conducted prior to each sterilization				
10.00	Leak checks on sterilization chambers are conducted prior to each sterilization				
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10.00	Leak checks on sterilization chambers are conducted prior to each sterilization				
10.00	Leak checks on sterilization chambers are conducted prior to each sterilization				
10.00	Leak checks on sterilization chambers are conducted prior to each sterilization				
10.00	Leak checks on sterilization chambers are conducted prior to each sterilization				
10.00	Leak checks on sterilization chambers are conducted prior to each sterilization				

E-26	E-27	E-28			
Average quantity of leaks identified per year Enter average <u>quantity</u> of leaks found per year	Repair method/procedure for the leaks identified	Average cost per repair for the leaks identified			
	Provide a brief description of the repair method/procedure for the leaks identified	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column		
	Any chambers found to be leaking are immediately removed from service				
	Any chambers found to be leaking are immediately removed from service				
	Any chambers found to be leaking are immediately removed from service				
	Any chambers found to be leaking are immediately removed from service				
	Any chambers found to be leaking are immediately removed from service				
	Any chambers found to be leaking are immediately removed from service				
	Any chambers found to be leaking are immediately removed from service				
	Any chambers found to be leaking are immediately removed from service				
	Any chambers found to be leaking are immediately removed from service				
	Any chambers found to be leaking are immediately removed from service				
	Any chambers found to be leaking are immediately removed from service				
	Any chambers found to be leaking are immediately removed from service				
	Any chambers found to be leaking are immediately removed from service				
<u></u>					
***************************************		••••••			

E-29	E-30							
Is an EtO concentration monitor used within this sterilizer chamber?	Description of the EtO concentration monitor used within this sterilizer chamber							
Select from the dropdown menu in this column	Enter the <u>type</u> of EtO concentration monitor	Enter the manufacturer of EtO concentration monitor	Enter the <u>model</u> of EtO concentration monitor	Specify the <u>method of detection</u> of EtO concentration monitor	Enter the <u>value</u> of detection level of EtO concentration monitor			
Yes	DIR	SEC Electronics		Optical IR Spectroscopy	5.00			
Yes	DIR	SEC Electronics		Optical IR Spectroscopy	5.00			
Yes	SIR	SEC Electronics		Optical IR Spectroscopy	5.00			
Yes	DIR	SEC Electronics	***************************************	Optical IR Spectroscopy	5.00			
Yes	DIR	SEC Electronics		Optical IR Spectroscopy	5.00			
Yes	SIR	SEC Electronics		Optical IR Spectroscopy	5.00			
Yes	DIR	SEC Electronics		Optical IR Spectroscopy	5.00			
Yes	DIR	SEC Electronics		Optical IR Spectroscopy	5.00			
Yes	DIR	SEC Electronics		Optical IR Spectroscopy	5.00			
Yes	DIR	SEC Electronics		Optical IR Spectroscopy	5.00			
Yes	DIR	SEC Electronics		Optical IR Spectroscopy	5.00			
No (skip to E-37)								
Yes	DIR	SEC Electronics		Optical IR Spectroscopy	5.00			

	E-31	E-32	E-33 Capital cost of the EtO concentration monitor used within this sterilizer chamber		E-34 Installation cost of the EtO concentration monitor used within this sterilizer chamber	
	Year in which the EtO concentration monitor was installed	Expected lifetime of the EtO concentration monitor				
Specify the <u>unit</u> of detection level of EtO concentration monitor		Enter the expected lifetime of the EtO concentration monitor (years)	Enter the dollar amount in this column	Specify the dollar year in this column	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column
mg/l						
mg/l						
mg/l						
mg/l	***************************************					
mg/l						
mg/l						
mg/l	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					
mg/l						
mg/l	***************************************					
mg/l						
mg/l						
mg/l						

E-35		E-36	
Annual cost of the EtO concentration monitor used within this sterilizer chamber		Standards or work practices followed for the EtO concentration monitor used within this sterilizer chamber	Duration of produc c
Enter the dollar amount in this column		Provide a brief description of any standards or work practices followed for the EtO concentration monitor used within the chamber	Enter the <u>average</u> duration (hours)
		The IR monitor is used to measure setpoints for EO concentration during	3.14
		The IR monitor is used to measure setpoints for EO concentration during	3.09
		The IR monitor is used to measure setpoints for EO concentration during	3.05
	***************************************	The IR monitor is used to measure setpoints for EO concentration during	3.41
		The IR monitor is used to measure setpoints for EO concentration during	3.07
		The IR monitor is used to measure setpoints for EO concentration during	3.28
		The IR monitor is used to measure setpoints for EO concentration during	2.50
	***************************************	The IR monitor is used to measure setpoints for EO concentration during	1.64
		The IR monitor is used to measure setpoints for EO concentration during	2.70
		The IR monitor is used to measure setpoints for EO concentration during	3.33
		The IR monitor is used to measure setpoints for EO concentration during	1.57
		The IR monitor is used to measure setpoints for EO concentration during	2.34
		The IR monitor is used to measure setpoints for EO concentration during	3.38

			-
			_L

E-37			E-38			E-39		
t dwell time within the chamber at EtO losing concentration		Total duration of time product stays within the sterilizer chamber before it is moved out			Concentration that EtO is reduced to be sterilizer of			
Enter the maximum duration (hours)	Enter the <u>minimum</u> duration (hours)	Enter the average duration (hours)	Enter the maximum duration (hours)	Enter the minimum duration (hours)	Specify the <u>unit</u> of concentration. Select from the dropdown menu in this column	Enter the <u>average</u> concentration that EtO is reduced to (ppm or % LEL)		
6.00	0.98	8.54	13.00	6.00	% LEL			
6.00	2.00	9.21	14.00	7.00	% LEL			
6.00	2.50	10.99	17.00	6.00	% LEL			
5.02	2.00	9.41	14.00	7.00	% LEL			
3.75	2.00	9.86	16.00	7.00	% LEL			
6.00	2.98	9.07	15.00	7.00	% LEL			
6.75	2.00	9.07	14.00	6.00	% LEL			
6.00	1.08	11.04	21.00	8.00	% LEL			
3.75	1.08	10.26	16.00	9.00	% LEL			
3.75	3.33	10.00	16.00	9.00	% LEL			
6.00	1.08	9.38	18.00	7.00	% LEL			
4.50	2.00	10.01	19.00	8.00	% LEL			
4.50	2.00	11.41	20.00	7.00	% LEL			
		<u> </u>						

)		E-40	E-41	E-42	E-43
efore moving the pronamber	oduct out of this	Is EtO from sterilizer captured for re-use?	Is water used during this process?	Amount of water disposed annually	Method of water disp
Enter the maximum concentration that EtO is reduced to (ppm or % LEL)	Enter the minimum concentration that EtO is reduced to (ppm or % LEL)	Select from the dropdown menu in this column	Select from the dropdown menu in this column	(gallons)	Provide a brief description about hovafter being used to capture EtO for r
5.00	0.00	No (skip to E-51)			
5.00	0.00	No (skip to E-51)			
5.00	0.00	No (skip to E-51)			
5.00	0.00	No (skip to E-51)			
5.00	0.00	No (skip to E-51)			
5.00	0.00	No (skip to E-51)			
5.00	0.00	No (skip to E-51)			
2.00	0.00	No (skip to E-51)			
2.00	0.00	No (skip to E-51)			
2.00	0.00	No (skip to E-51)			
2.00	0.00	No (skip to E-51)			
2.00	0.00	No (skip to E-51)			
2.00	0.00	No (skip to E-51)			

	E-	44	E-45	E-46	E-47	E-48
osal		iciated with water iosal	What is the percentage of EtO recovered by this system?	Year in which the EtO recovery system was installed	Expected lifetime of the EtO recovery system	Capital cost of the system used with chami
w water is disposed e-use	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	(percent)	Enter the calendar year	Enter the expected lifetime of the EtO recovery system (years)	Enter the dollar amount in this column

3	E-	49	E-	-50
e EtO recovery I this sterilizer Der	recovery syster	ost of the EtO n used with this chamber	system used w chamber (excludir with wastewate	the EtO recovery ith this sterilizer ng costs associated er treatment and iosal)
Specify the dollar year in this column	Enter the dollar amount in this column	Specify the dollar year in this column	Enter the dollar amount in this column	Specify the dollar year in this column

Table 3. Control Characteristics for Sterilizer Chambers

Field #	E-1	E-51		E-52	
Data	Sterilizer unit ID	Is the sterilizer chamber vent (SCV) routed to any control device?		APCD 1 for sterilizer chamber vent (SCV)	
Instruction	This column will be auto-populated based on your entries in the previous fields		APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"	Enter the <u>average</u> air flow routed from the vent to this APCD (actual cubic feet per minute, acfm)
Response	Chamber 1	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 2	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 3	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 4	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 5	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 6	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 7	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 8	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 9	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
	Chamber 10	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	

E-53	E-54			
PCD 2 for sterilizer chamber vent (SCV) (if		PCD 3 for sterilizer chamber vent (SCV) (if		
Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"		Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"		

	E-55	E-56	E-57	E-58	E-59	E-60
iny)	Material of duct	Total length of duct	Average thickness	Is the cross section	Diameter of duct	Cross-sectional
	work for sterilizer	work for sterilizer	of duct work for	of duct work for	work	height of duct work
	chamber vent (SCV)	chamber vent (SCV)	sterilizer chamber	sterilizer chamber	(For circular duct	(For rectangular
			vent (SCV)	vent (SCV) circular	work only)	duct work only)
				or rectangular?		
Enter the <u>average</u>	Specify the	Enter the <u>total</u>	Enter the <u>average</u>	Select from the	Enter the <u>average</u>	Enter the <u>average</u>
air flow routed	material of duct	length of duct work			diameter of duct	cross-sectional
from the vent to	work	(feet)	work	this column	work	height of duct work
this APCD			(inches)		(feet)	(feet)
(actual cubic feet						
per minute, acfm)						
	Stainless Steel Pipe	90.00	0.25	Circular (fill out E-		
	and Black Pipe			59 & E-63 as		
				appropriate)		
***************************************	Stainless Steel Pipe	90.00	0.25	Circular (fill out E-		
	and Black Pipe			59 & E-63 as		
				appropriate)		
	Stainless Steel Pipe	90.00	0.25	Circular (fill out E-		
	and Black Pipe			59 & E-63 as		
				appropriate)		
	Stainless Steel Pipe	90.00	0.25	Circular (fill out E-		
	and Black Pipe			59 & E-63 as		
***************************************				appropriate)		
	Stainless Steel Pipe	90.00	0.25	Circular (fill out E-		
	and Black Pipe			59 & E-63 as		
***************************************				appropriate)		
	Stainless Steel Pipe	90.00	0.25	Circular (fill out E-		
	and Black Pipe			59 & E-63 as		
				appropriate)		ļ
	Stainless Steel Pipe	90.00	0.25	Circular (fill out E-		
	and Black Pipe			59 & E-63 as		
***************************************	Ctainless Ctasl Dins	50.00	0.35	appropriate)		
	Stainless Steel Pipe	60.00	0.25	Circular (fill out E-		
	and Black Pipe			59 & E-63 as		
***************************************	Stainless Steel Pipe	65.00	0.25	appropriate) Circular (fill out E-		
	and Black Pipe	05.00	0.25	59 & E-63 as		
	and black ripe			appropriate)		
***************************************	Stainless Steel Pipe	75.00	0.25	Circular (fill out E-		
	and Black Pipe	,5.00	0.23	59 & E-63 as		
	and black ripe			appropriate)		
***************************************	<u> </u>	L	L	1 appropriate)	L	

000000000000000000000000000000000000000			

E-61	E-62	E-	63	E	-64	E-(
Cross-sectional width of duct work (For rectangular duct work only)	Are the dimensions of duct work constant throughout?		of duct work uct work only)	Cross-sectional height of duct work (For rectangular duct work only)		Cross-sectional w (For rectangular
Enter the <u>average</u> cross-sectional width of duct work (feet)	Select from the dropdown menu in this column	Enter the maximum diameter of duct work (feet)	Enter the <u>minimum</u> diameter of duct work (feet)	Enter the maximum cross- sectional height of duct work (feet)	Enter the <u>minimum</u> cross-sectional height of duct work (feet)	maximum cross-
	No (fill out	0.80	0.20			
	respective fields)					
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.20			
	No (fill out respective fields)	0.80	0.30			
	No (fill out respective fields)	1.00	0.30			

3 5	E-66	E-67		E-68	E-69		
idth of duct work duct work only)	Year in which Expected lifetime duct work was of duct work installed		chamber vent (ict work for sterilizer SCV) (estimated or ctual)	Installation cost of duct work for sterilizer chamber vent (SCV) (estimated or actual)		
Enter the <u>minimum</u> cross-sectional width of duct work (feet)	Enter the calendar year	Enter the expected lifetime of duct work (years)	Enter the dollar amount in this column	Specify the dollar year in this column	Enter the dollar amount in this column	Specify the dollar year in this column	

E-70			E-71			E-'
Stack ID to which the <u>uncontrolled</u> sterilizer chamber vent (SCV) vents (for uncontrolled SCV only)			Stack paramete for uncontrolled SC	Stack coc (for uncontrol		
Enter from permit description, if available. Otherwise, use a	Enter the stack height (feet)	Enter the stack diameter (feet)	Enter the temperature at stack outlet (Fahrenheit)	Enter the <u>exhaust</u> <u>velocity</u> at stack outlet (feet/second)	Enter the volumetric flow rate at stack outlet (cubic feet/second)	
unique identifier for each stack						
N/A						
N/A						
N/A						
N/A						
N/A						
N/A						
N/A						
N/A						
N/A						
N/A						

72	E-73	E-	-74	E-75	E-76
ordinates led SCV only)	Is there a chamber exhaust vent (CEV)?	Is there a target EtO concentration that is reached before activation of the CEV?			Year in which the interlock system was installed
Enter the longitude of stack. Specify to the <u>6th</u> decimal point	Select from the dropdown menu in this column	Select from the dropdown menu in this column	Enter the value if you select "Yes" on the left (ppm)	Select from the dropdown menu in this column	Enter the calendar year
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007
	Yes	Yes		Yes	2007

E-77	E-78		E-7	79	ı	
Expected lifetime of the interlock system	Capital cost of the interlock system		Annual cost of the interlock system		Standards or work practices f	
Enter the expected	Enter the dollar	Specify the	Enter the dollar	Specify the	Provide a brief description of any star	
ifetime of the	amount in this	dollar year in	amount in this	dollar <u>year</u> in	interlock system that prevents actival	
nterlock system years)	column	this column	column	this column	is reached	
					The door interlock system will not allo	
					during a cycle if the EO concentration	
					55 Chapter 14. Work practices are es	
					The door interlock system will not allo	
					during a cycle if the EO concentration	
***************************************					55 Chapter 14. Work practices are es	
					The door interlock system will not allo	
					during a cycle if the EO concentration	
					55 Chapter 14. Work practices are es	
					The door interlock system will not allo	
					during a cycle if the EO concentration	
***************************************			<u> </u>		55 Chapter 14. Work practices are es The door interlock system will not allo	
					during a cycle if the EO concentration	
					55 Chapter 14. Work practices are es	
					The door interlock system will not allo	
					during a cycle if the EO concentration	
					55 Chapter 14. Work practices are es	
					The door interlock system will not allo	
					during a cycle if the EO concentration	
					55 Chapter 14. Work practices are es	
***************************************			***************************************		The door interlock system will not allo	
					during a cycle if the EO concentration	
					55 Chapter 14. Work practices are es	
***************************************		***************************************		***************************************	The door interlock system will not allo	
					during a cycle if the EO concentration	
					55 Chapter 14. Work practices are es	
					The door interlock system will not allo	
					during a cycle if the EO concentration	
					55 Chapter 14. Work practices are es	

-80	E-81		E-82			
ollowed for the interlock system	Is the chamber exhaust vent (CEV) routed to any control device?	APCD 1 for chamber exhaust vent (CEV)				
ndards or work practices followed for tion of the CEV until a set concentration	Select from the dropdown menu in this column	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"	Enter the average air flow routed from the vent to this APCD (actual cubic feet per minute, acfm)		
ow chamber doors (and CEV) to open is >25% LEL in accordance with NFPA tablished to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer			
ow chamber doors (and CEV) to open is >25% LEL in accordance with NFPA tablished to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer			
ow chamber doors (and CEV) to open is >25% LEL in accordance with NFPA tablished to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer			
ow chamber doors (and CEV) to open is >25% LEL in accordance with NFPA tablished to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer			
ow chamber doors (and CEV) to open is >25% LEL in accordance with NFPA tablished to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer			
ow chamber doors (and CEV) to open is >25% LEL in accordance with NFPA tablished to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer			
ow chamber doors (and CEV) to open is >25% LEL in accordance with NFPA tablished to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer			
ow chamber doors (and CEV) to open is >25% LEL in accordance with NFPA tablished to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer			
ow chamber doors (and CEV) to open is >25% LEL in accordance with NFPA tablished to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer			
ow chamber doors (and CEV) to open is >25% LEL in accordance with NFPA tablished to program cycles and	Yes (fill out E-82 through E-107)	CD-3	Catalytic oxidizer			

	E-83 CD 2 for chamber exhaust vent (CEV) (if	E-84 APCD 3 for chamber exhaust vent (CEV) (
APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"	Enter the <u>average</u> air flow routed from the vent to this APCD (actual cubic feet per minute, acfm)	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"

	E-85	E-86	E-87	E-88	E-89	E-90
f any)	Material of duct work for chamber exhaust vent (CEV)	Total length of duct work for chamber exhaust vent (CEV)	Average thickness of duct work for chamber exhaust vent (CEV)	Is the cross section of duct work for chamber exhaust vent (CEV) circular or rectangular?	Diameter of duct work (For circular duct work only)	Cross-sectional height of duct work (For rectangular duct work only)
Enter the average air flow routed from the vent to this APCD (actual cubic feet per minute, acfm)	Specify the material of duct work	Enter the <u>total</u> length of duct work (feet)	Enter the average thickness of duct work (inches)	Select from the dropdown menu in this column	Enter the <u>average</u> diameter of duct work (feet)	Enter the <u>average</u> cross-sectional height of duct work (feet)
	Galvanized	50.00	0.06	Circular (fill out E- 89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E- 89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E- 89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E- 89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E- 89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E- 89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E- 89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E- 89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E- 89 & E-93 as appropriate)		
	Galvanized	50.00	0.06	Circular (fill out E- 89 & E-93 as appropriate)		

E-91	E-92	[-93	E-	-94	E-9	
Cross-sectional width of duct work (<u>For rectangular</u> duct work only)	Are the dimensions of duct work constant throughout?	Diameter of duct work (For circular duct work only)		Cross-sectional height of duct work (For rectangular duct work only)		Cross-sectional w (<u>For rectangular</u>	
Enter the <u>average</u> cross-sectional width of duct work (feet)	Select from the dropdown menu in this column	Enter the maximum diameter of duct work (feet)	Enter the minimum diameter of duct work (feet)	Enter the maximum cross- sectional height of duct work (feet)	Enter the minimum cross-sectional height of duct work (feet)	maximum cross-	
	No (fill out respective fields)	2.00	1.30				
	No (fill out	2.00	1.30				
	respective fields)	2.00	1.30				
	No (fill out respective fields)	2.00	1.30				
	No (fill out respective fields)	2.00	1.30				
	No (fill out respective fields)	2.00	1.30				
	No (fill out respective fields)	2.00	1.30				
	No (fill out respective fields)	2.00	1.30				
	No (fill out respective fields)	2.00	1.40				
	No (fill out respective fields)	2.00	1.40				
	No (fill out respective fields)	2.00	1.40				

95	E-96	E-97	E-	98	E-4	99
idth of duct work duct work only)	Year in which duct work was installed		Capital cost of duct work for chamber exhaust vent (CEV) (estimated or actual)			
Enter the minimum cross- sectional width of duct work (feet)	Enter the calendar year	Enter the expected lifetime of duct work (years)	Enter the dollar amount in this column	Specify the dollar year in this column	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column

E-100	E-101	E-102	E-103	E-	104	E-10
Is any APCD installed solely for the purpose of controlling emissions from the CEV?	If not, was a damper system installed for the purpose of adjusting the flow rate to the control device upon CEV activation?	Year in which the damper system was installed	Expected lifetime of the damper system	Capital cost of t	he damper system	Installation cost of syste
Select from the dropdown menu in this column	Select from the dropdown menu in this column	Enter the calendar year	Enter the expected lifetime of the damper system (years)	Enter the dollar amount in this column	Specify the dollar year in this column	Enter the dollar amount in this column
No	Yes					
No	Yes					
No	Yes					
No	Yes					
No	Yes					
No	Yes					
No	Yes					
No	Yes					
No	Yes					
No	Yes					

5	E-1	106	E-107	E-108	
of the damper m	Annual cost of the damper system		Specify the ID(s) of any APCD installed solely for the purpose of controlling emissions from the CEV	Stack ID to which the uncontrolled chamber exhaust vent (CEV) vents (for uncontrolled CEV only)	
Specify the dollar <u>year</u> in this column	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	List all the APCD IDs separated by commas	Enter from permit description, if available. Otherwise, use a unique identifier for each stack	Enter the stack height (feet)

Stack parameter (for uncontrolled CEV only) Enter the stack diameter temperature at stack outlet (Fahrenheit) (feet/second) Fahrenheit) (feet/second) (fee		E-109	E-110			
Enter the stack diameter (feet) Enter the stack outlet (Fahrenheit) Enter the exhaust velocity at stack outlet (feet/second) Enter the Enter the latitude of stack. Specify to outlet outlet (cubic enterties) Enter the wolumetric flow of stack. Specify to the 6th decimal point decimal point						
diameter (feet)temperature at stack outlet (Fahrenheit)velocity at stack outlet (feet/second)volumetric flow rate at stack outlet (cubicof stack. Specify to the 6th decimal pointlongitude of stack. Specify to the 6th decimal point	(<u>f</u>	or uncontrolled CE				
diameter (feet)temperature at stack outlet (Fahrenheit)velocity at stack outlet (feet/second)volumetric flow rate at stack outlet outlet (cubicof stack. Specify to the 6th decimal pointlongitude of stack. Specify to the 6th decimal point						
diameter (feet)temperature at stack outlet (Fahrenheit)velocity at stack outlet (feet/second)volumetric flow rate at stack outlet outlet (cubicof stack. Specify to the 6th decimal pointlongitude of stack. Specify to the 6th decimal point						
diameter (feet)temperature at stack outlet (Fahrenheit)velocity at stack outlet (feet/second)volumetric flow rate at stack outlet outlet (cubicof stack. Specify to the 6th decimal pointlongitude of stack. Specify to the 6th decimal point						
diameter (feet)temperature at stack outlet (Fahrenheit)velocity at stack outlet (feet/second)volumetric flow rate at stack outlet outlet (cubicof stack. Specify to the 6th decimal pointlongitude of stack. Specify to the 6th decimal point						
diameter (feet)temperature at stack outlet (Fahrenheit)velocity at stack outlet (feet/second)volumetric flow rate at stack outlet outlet (cubicof stack. Specify to the 6th decimal pointlongitude of stack. Specify to the 6th decimal point						
diameter (feet)temperature at stack outlet (Fahrenheit)velocity at stack outlet (feet/second)volumetric flow rate at stack outlet outlet (cubicof stack. Specify to the 6th decimal pointlongitude of stack. Specify to the 6th decimal point						
diameter (feet)temperature at stack outlet (Fahrenheit)velocity at stack outlet (feet/second)volumetric flow rate at stack outlet outlet (cubicof stack. Specify to the 6th decimal pointlongitude of stack. Specify to the 6th decimal point	Enter the stack	Enter the	Enter the exhaust	Enter the	Enter the latitude	Enter the
(feet) stack outlet (feet/second) outlet the 6th decimal specify to the 6th outlet point decimal point (cubic						
(Fahrenheit) (feet/second) outlet point decimal point (cubic						
(cubic	(ieer)					
		(ranrenneit)	(reet/second)		point	decimal point
leet/second)						
				reet/second)		
						
		***************************************	***************************************			

Chamber 11	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
Chamber 12	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
Chamber 13	Yes (fill out E-52 through E-69)	CD-2	Wet scrubber	
Chamber 14				

Table 4. Control Characteristics for Sterilizer Chambers (continued)

Field #	E-1	E-111	E-112		E-113
Data	Sterilizer unit ID	Is there a cover hood or vent over the sterilizer chamber door (e.g., hooded vent above the sterilizer chamber door)?	•		APCD 1 for cover hood or vent
Instruction	This column will be auto-populated based on your entries in the previous fields	Select from the dropdown menu in this column	Select from the dropdown menu in this column	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"
Response	Chamber 1 Chamber 2	Yes Yes			
	Chamber 3	Yes			

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		E-114		E-115	E-116
		APCD 2 for cover hood or vent (if any)		Material of duct work for cover hood or vent	Total length of duct work for cover hood or vent
Enter the average air flow routed from the cover hood or vent to this APCD (actual cubic feet per minute, acfm)	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"	Enter the average air flow routed from the cover hood or vent to this APCD (actual cubic feet per minute, acfm)	Specify the material of duct work	Enter the <u>total</u> length of duct work (feet)

Stainless Steel Pipe	55.00	0.25	Circular (fill out E-		
and Black Pipe			59 & E-63 as		
·			appropriate)		
Stainless Steel Pipe	75.00	0.25	Circular (fill out E-		
and Black Pipe			59 & E-63 as		
			appropriate)		
 Stainless Steel Pipe	55.00	0.25	Circular (fill out E-		
and Black Pipe	55.00	0.25	59 & E-63 as		
una biack ripe			appropriate)		
			арргорпасе)		

E-117	E-118	E-119	E-120	E-121	E-122	E-1
Average thickness	Is the cross section	Diameter of duct	Cross-sectional	Cross-sectional	Are the dimensions	Diameter of
of duct work for	of duct work for	work	height of duct work	width of duct work	of duct work	(For circular du
cover hood or vent	the cover hood or	(For circular duct	(For rectangular	(For rectangular	constant	
	vent circular or	work only)	duct work only)	duct work only)	throughout?	
	rectangular?					
Enter the <u>average</u>	Select from the	Enter the <u>average</u>	Enter the average	Enter the average	Select from the	Enter the
thickness of duct	dropdown menu in		cross-sectional	cross-sectional	dropdown menu in	maximum diameter
work	this column	work		width of duct work		of duct work
(inches)		(feet)	(feet)	(feet)		(feet)
<u> </u>		` '	<u> </u>			` '
	Parameter					

	No (fill out respective fields)	0.80	0.30		
	No (fill out respective fields)	0.80	0.40		
	No (fill out respective fields)	0.80	0.40		
MARK 10 - 10 M M M M M M M M M M M M M M M M M M					

23	E-	124	E-	125	E-126	E-127
duct work ict work only)		eight of duct work r duct work only)	Cross-sectional width of duct work		Year in which duct work was installed	Expected lifetime of duct work
Enter the minimum diameter of duct work (feet)	Enter the maximum cross-sectional height of duct work (feet)	Enter the minimum cross-sectional height of duct work (feet)	maximum cross-	Enter the minimum cross-sectional width of duct work (feet)	Enter the calendar year	Enter the expected lifetime of duct work (years)

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E-	128	E	E-129	E-130		
	Capital cost of duct work for cover hood or vent (estimated or actual)		stallation cost of duct work for cover hood or vent (estimated or actual) the cover hood went vents (for uncontrolle cover hood or vent only)		(for und	
Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	Enter the dollar amount in this column	Specify the dollar year in this column		Enter the stack height (feet)	Enter the stack diameter (feet)
					8.00	1.00
					8.00	1.00
					8.00	1.00

N/A			
N/A			
N/A			

E-131			E-	132	E-133	
Stack parameter folled cover hood or vent only)		Stack co (for uncontrolled or	Is any SCV or CEV of the sterilizer unit routed to a vacuum pump?			
Enter the temperature at stack outlet (Fahrenheit)	Enter the exhaust velocity at stack outlet (feet/second)	Enter the volumetric flow rate at stack outlet (cubic feet/second)	Enter the latitude of stack. Specify to the <u>6th</u> decimal point	Enter the longitude of stack. Specify to the <u>6th</u> decimal point	Select from the dropdown menu in this column If your answer is "Yes" in any row below, fill out Table 5	
					Yes (fill out E-134 through E-143)	
					Yes (fill out E-134 through E-143)	
					Yes (fill out E-134 through E-143)	

Yes	Yes	Yes	2007
Yes	Yes	Yes	2007
Yes	Yes	Yes	2007

 T	r	I	r	<u></u>
			1	The door interlock system will not allo
				during a cycle if the EO concentration
				55 Chapter 14. Work practices are es
				The door interlock system will not allo
				during a cycle if the EO concentration
				55 Chapter 14. Work practices are es
				The door interlock system will not allo
				during a cycle if the EO concentration
				55 Chapter 14. Work practices are es

ow chamber doors (and CEV) to open	Yes (fill out E-82	CD-3	Catalytic oxidizer	
is >25% LEL in accordance with NFPA	through E-107)			
tablished to program cycles and				
ow chamber doors (and CEV) to open	Yes (fill out E-82	CD-3	Catalytic oxidizer	
is >25% LEL in accordance with NFPA	through E-107)			
tablished to program cycles and				
ow chamber doors (and CEV) to open	Yes (fill out E-82	CD-3	Catalytic oxidizer	
is >25% LEL in accordance with NFPA	through E-107)			
tablished to program cycles and				

 Galvanized	50.00	0.06	Circular (fill out E-		
Gaivailizeu	30.00	0.00	89 & E-93 as		
			1		
Calcustant	F0.00	0.00	appropriate)		
Galvanized	50.00	0.06	Circular (fill out E-		
			89 & E-93 as		
			appropriate)		
Galvanized	50.00	0.06	Circular (fill out E-		
			89 & E-93 as		
			appropriate)		
1	1	I	1	l	I

No (fill out respective fields)	2.00	1.40		
No (fill out respective fields)	2.00	1.40		
No (fill out respective fields)	2.00	1.40		

No	Yes			
No	Yes			
No	Yes			

Chamber 4	Yes		
Chamber 5	Yes		
Chamber 6	Yes		
Chamber 7	Yes		
Chamber 8	No (skip to E-133)		
Chamber 9	No (skip to E-133)		
Chamber 10	No (skip to E-133)		
Chamber 11	No (skip to E-133)		
Chamber 12	No (skip to E-133)		
Chamber 13	No (skip to E-133)		
Chamber 14		 	
	***************************************	 ***************************************	
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Table 5. Vacuum Pumps

Field #	E-134	E-135
Data	Unit ID of vacuum	Associated sterilizer unit ID(s) and vent(s)
	pump	

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E-136	E-137	E-138	E-139
Basic information of vacuum pump	Seal type of vacuum pump	Capacity of vacuum	Year in which the
		pump	vacuum pump was installed

				T		
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		***************************************			***************************************	***************************************

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E-140	E-141	E-142	E-1
Expected lifetime	Capital cost of the vacuum pump	Annual cost of the vacuum pump	Handling and disposal of water f
of the vacuum			
pump			

					
		***************************************	 	***************************************	

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43														
or	OI	nc	e-t	hro	วน	gh	Vε	icu	ur	n p	ur	np		

				8.00	1.00
				8.00	1.00
				8.00	1.00
				0.00	1.00
				8.00	1.00
				8.00	1.00
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	 	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
***************************************	***************************************	***************************************	 	***************************************	
				***************************************	

					Yes (fill out E-134
					through E-143)
					Yes (fill out E-134
					through E-143)
					Yes (fill out E-134
					through E-143)
					,
					Yes (fill out E-134
					through E-143)
					tillough L-143)
					Yes (fill out E-134
					through E-143)
					V /5:11 . E 4.5.
					Yes (fill out E-134
					through E-143)
***	***************************************		***************************************		
					Yes (fill out E-134
					through E-143)
					_
					Yes (fill out E-134
					through E-143)
					tillough E 143)
					Yes (fill out E-134
					through E-143)
					Y /5:11 F 424
					Yes (fill out E-134
					through E-143)
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			***************************************		
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			***************************************		
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			***************************************		
		***************************************			
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Instruction	Enter from permit description, if available. Otherwise, use a unique identifier for each pump	Enter ID(s) of the sterilizer unit(s) associated with this vacuum pump. If more than one sterilizer unit is serviced by the vacuum pump, list all the sterilizer unit IDs separated by commas. Also specify which vents on the sterilizer unit are routed to the vacuum pump. For example: "SC-1 (SCV, CEV)"	Specify <u>make</u> of pump
Response	S-1	Chamber 1 (SCV)	Decker
	S-2	Chamber 2 (SCV)	Decker
	S-3	Chamber 3 (SCV)	Decker
	S-4	Chamber 4 (SCV)	Decker
	S-5	Chamber 5 (SCV)	Decker
	S-6	Chamber 6 (SCV)	Decker
	S-7	Chamber 7 (SCV)	Decker
	S-8	Chamber 8 (SCV)	Decker
	S-9	Chamber 9 (SCV)	Decker
	S-10	Chamber 10 (SCV)	Decker
	S-11	Chamber 11 (SCV)	Decker
	S-12	Chamber 12 (SCV)	Sterling
	S-13	Chamber 13 (SCV)	Decker
		Chamber 14 installation in process	
			<del> </del>

Specify <u>model</u> of	Specify type of pump. Select from the	Select from the dropdown menu in this	(cubic feet per	Enter the calendar
pump	dropdown menu in this column	column	minute, cfm)	year
	If you select "Other (double click to	If you select "Other (double click to		
	specify)", be sure to type your entries	specify)", be sure to type your entries		
	between the parentheses "()"	between the parentheses "()"		
	<u> </u>			
DV02516 DA2	Recirculating	Wet seal with oil	250.00	
DV02516 DA2	Recirculating	Wet seal with oil	250.00	
DV0251B DA3	Recirculating	Wet seal with oil	250.00	
DV0250B DA2	Recirculating	Wet seal with oil	250.00	
DV0251B DA3	Recirculating	Wet seal with oil	250.00	
DV0251B DA3	Recirculating	Wet seal with oil	250.00	
DV0550B KA2	Recirculating	Wet seal with oil	550.00	
DV0550B KA3	Recirculating	Wet seal with oil	550.00	
DV0550B KA3/	Recirculating	Wet seal with oil	550.00	
DV0550B-KA2				
DVB0550B KA2	Recirculating	Wet seal with oil	550.00	
DVB0550B KA2	Recirculating	Wet seal with oil	550.00	
SIHI LEHA 900 AB	Recirculating	Wet seal with oil	550.00	
DVB0550B KA2	Recirculating	Wet seal with oil	550.00	
***************************************				
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Enter the expected	Enter the dollar	Specify the dollar	Enter the dollar	Specify the dollar	If you selected "once-through" as the typ
lifetime of the EtO	amount in this	year in this column			description about how water is handled a
concentration	column		column		
monitor					
(years)					
***************************************		***************************************			
***************************************		***************************************			
***************************************					
ANNONANANANANANANANANANANANANANANANANAN					

e of vacuum pump, provide a brief nd disposed						

## Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

## F. Aeration

Table 1. Aeration that Occurs in Separate Unit (Aeration Room & Aeration Cell/Chamber)

Field #	F-1	F-2	F-3	F-4	F-5
Data	Aeration unit ID	Associated EIS release point ID	Type of aeration unit	Does the aeration unit use accelerated aeration?	Characteristics of accelerated aeration
Instruction	Enter from permit description, if available. Otherwise, use a unique identifier for each aeration unit	Enter the EIS release point ID associated with the aeration unit, if any	this column	Select from the dropdown menu in this column	Select from the dropdown menu in this column
Response	AR08	N/A	Aeration room	No (skip to F-6)	N/A
	AR09	N/A	Aeration room	No (skip to F-6)	N/A

Table 2. Aeration that Occurs within Sterilizer Chamber

If no data is auto-populated in Field E-1 of this table, skip to Table 3

ij no data is date populated in their E I	of this table, skip to Table 5
Field # E-1	F-43 F-44
Data Sterilizer unit ID	Temperature Relative humidity

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right → If yes, be sure to shade the fields containing CBI in red, and follow the instructions specified in the Instructions Document

F-6			F-7			F-	
Dimensions of aeration cell/chamber ( <u>For aeration cell/chamber only.</u> Dimensions of aeration rooms should already have been provided in Room Area tab)		aeration cell/chamber only. Dimensions of aeration			Relative f		
Enter the <u>height</u> of aeration unit <b>(feet)</b>	Enter the <u>width</u> of aeration unit <b>(feet)</b>	Enter the <u>length</u> of aeration unit <b>(feet)</b>	Enter the <u>average</u> temperature of aeration room when in operation (Fahrenheit)	Enter the maximum temperature of aeration room when in operation (Fahrenheit)	Enter the minimum temperature of aeration room when in operation (Fahrenheit)	Is a specific humidity needed for aeration? Select from the dropdown menu in this column	
28.00	85.00	83.00	120.00	130.00	110.00	No (skip to F-9)	
28.00	173.00	88.00	115.00	130.00	100.00	No (skip to F-9)	

F-45	F-46
Pressure	Length of time that products are being held in aeration
	room before being transferred

8	F-9		F-11	
numidity	Pressure (For aeration cell/chamber only)		Facial velocity (For aeration room only)	
If yes, enter the specific humidity that is needed for aeration (percent)	Enter the average pressure within the unit (psig)	Enter the pressure drop across aeration room (inch H2O) (you may choose to fill out either F-10, F-11, or both)	Specify definition of pressure drop, or locations based on which pressure drop is measured (e.g., farthest point to inlet of control device)	Enter the facial velocity in aeration room (feet per minute, fpm) (you may choose to fill out either F-10, F-11, or both)

F-12	F-13			
Location and length of time that sterilized product is placed in aeration room area before being placed in the aeration chamber	Length of time that product is being held in aeration unit before being transferred			
Provide details on where the sterilized product is placed in the aeration room area (e.g., placed in hallway area outside door of aeration chamber), and the length of time the sterilized product sits in the aeration room area before being placed in the aeration chamber	Enter the <u>average</u> length of time that products are being held in aeration room (hours)	maximum length	Enter the minimum length of time that products are being held in aeration room (hours)	
Product is taken out of chambers and is placed within aeration rooms as quickly as possible.	38.00	168.00	8.00	
Product is taken out of chambers and is placed within aeration rooms as quickly as possible.	38.00	168.00	8.00	

F-14	F-15	F-16	F-17
Are leak checks performed on aeration unit?	Frequency of leak checks for aeration unit	Average length of time to perform a leak check	Leak check procedure(s) for aeration unit
Select from the dropdown menu in this column	Specify the frequency of leak checks for sterilizer chamber	Enter average length of time to perform a leak check (minutes)	Provide a brief description of the leak check procedure(s) for

	F-:	18	F-19	F-20	
	Annual cost of aeratic	leak checks for	Average quantity of leaks identified per year	Repair method/procedure for the leaks id	
aeration unit	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	Enter average <u>quantity</u> of leaks found per year	Provide a brief description of the repair method/procedure for identified	
				If any leaks are discovered, repairs are made as soons as poss	
				If any leaks are discovered, repairs are made as soons as poss	

	F-	21	F-22	F-23		
fied		r repair for leaks tified	Is aeration room vent (ARV) routed to any control device?		APCD 1 for aeration room vent (ARV	
ir the leaks	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	Select from the dropdown menu in this column	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column  If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"	
ible.			Yes (fill out F-23 through F-39)	CD-3	Catalytic oxidizer	
ible.			Yes (fill out F-23 through F-39)	CD-3	Catalytic oxidizer	

	F-24		F-25	F-26
,		ny)	Material of duct work for aeration room vent (ARV)	Total length of duct work for aeration room vent (ARV)
APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD	Select from the dropdown menu in this column  If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"	Enter the <u>average</u> air flow routed from the vent to this APCD (actual cubic feet per minute, acfm)	Specify the material of duct work	Enter the <u>total</u> length of duct work (feet)
			Galvanized	119.50
			Galvanized	52.91
	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier	APCD 2 for aeration room vent (ARV) (if a  APCD ID. Enter from permit column description, if available. Otherwise, use a unique identifier	APCD 2 for aeration room vent (ARV) (if any)  APCD ID. Enter from permit column  description, if available.  Otherwise, use a unique identifier  APCD ID. Enter from the dropdown menu in this column  If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"  between the parentheses "()"  (actual cubic feet per minute, acfm)	APCD ID. Enter from permit description, if available. Otherwise, use a unique identifier for each APCD  APCD ID. Enter from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"  Select from the dropdown menu in this column If you select "Other (double click to specify)", be sure to type your entries between the parentheses "()"  Galvanized  Galvanized

F-27	F-28	F-29	F-30	F-31	F-32	F-:
Average thickness of duct work for aeration room vent (ARV)	Is the cross section of duct work for aeration room vent (ARV) circular or rectangular?	Diameter of duct work (For circular duct work only)	Cross-sectional height of duct work (For rectangular duct work only)	Cross-sectional width of duct work ( <u>For rectangular</u> duct work only)	Are the dimensions of duct work constant throughout?	Diameter o (For circular di
Enter the average thickness of duct work (feet)	Select from the dropdown menu in this column		Enter the <u>average</u> cross-sectional height of duct work (feet)	Enter the <u>average</u> cross-sectional width of duct work (feet)	Select from the dropdown menu in this column	Enter the maximum diameter of duct work (feet)
0.06	Circular (fill out F- 29 & F-33 as appropriate)	2.60			No (fill out respective fields)	3.00
0.06	Circular (fill out F- 29 & F-33 as appropriate)				No (fill out respective fields)	

33	F-	34	F-	-35	F-36	F-37		
f duct work uct work only)	Cross-sectional height of duct work (For rectangular duct work only)		Cross-sectional width of duct work (For rectangular duct work only)		al height of duct work Cross-sectional width of duct work		Year in which duct work was installed	Expected lifetime of duct work
Enter the minimum diameter of duct work (feet)	Enter the maximum cross- sectional height of duct work (feet)	Enter the minimum cross-sectional height of duct work (feet)	maximum cross-	Enter the minimum cross- sectional width of duct work (feet)	Enter the calendar year	Enter the expected lifetime of duct work (years)		

F-	38	F-	39	F-40		
aeration roo	f duct work for m vent (ARV) d or actual)	aeration roo	of duct work for m vent (ARV) d or actual)	Stack ID to which the aeration room vents (ARV) is routed to (for uncontrolled ARV only)	(	
Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	Enter the dollar <u>amount</u> in this column	Specify the dollar <u>year</u> in this column	Enter from permit description, if available. Otherwise, use a unique identifier for each stack	Enter the stack height (feet)	Enter the stack diameter (feet)

F-41		F-42			
Stack parameter uncontrolled AR				ordinates lled ARV only)	
Enter the temperature at stack outlet (Fahrenheit)	Enter the <u>exhaust</u> <u>velocity</u> at stack outlet <b>(feet/second)</b>	Enter the volumetric flow rate at stack outlet (cubic feet/second)	Enter the latitude of stack. Specify to the <u>6th</u> decimal point	Enter the longitude of stack. Specify to the <u>6th</u> decimal point	

Instruction	This column will be auto-populated based on your entries in the previous fields	Enter the <u>average</u> temperature of aeration room when in operation (Fahrenheit)	Enter the maximum temperature of aeration room when in operation (Fahrenheit)	Enter the minimum temperature of aeration room when in operation (Fahrenheit)	Is a specific humidity needed for aeration? Select from the dropdown menu in this column	
Response						

## Table 3. Movement of Sterilized Products through the Facility

 $Describe\ how\ sterilized\ product\ is\ moved\ from\ one\ area\ of\ the\ facility\ to\ another.\ For\ each\ product\ move\ through\ the\ facility\ provide\ described by$ 

placed, (3) distance product is moved, and (4) note any areas where there is a hood to collect the EO

Field #	Data	Instruction	
F-47	From sterilizer chamber to aeration	Provide details on where the sterilized product is placed in	Product is taken out
F-48	From aeration room/chamber to	Provide details on where the sterilized and aerated product	Product is removed
	warehouse area	is placed after being removed from aeration chamber,	
		length of time the sterilized and aerated product sits after	
		being removed from aeration room, and distance the	
		sterilized and aerated product is moved to warehouse area	
F-49	At warehouse area	Provide details on length of time sterilized and aerated	Product will remain

Specify pressure condition during aeration process	Enter the <u>average</u> length of time that products are being held in aeration room (hours)	Enter the maximum length of time that products are being held in aeration room (hours)	Enter the minimum length of time that products are being held in aeration room (hours)
			_

etails on the following variables: (1) length of time that product sits, (2) where the product is

Response
of chambers and is placed within aeration as quickly as possible.
from aeration and placed in the shipping warehouse or loaded directly onto trailers.
in shipping warehouse until customer picks up product or product is moved to trailer for transport.

# Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

### **G. Summary of Air Pollution Control Devices**

Table 1. APCD Characteristics

If an APCD exhausts to more than one stack, provide the information requested in Fields G-5 through G-7 for each additional stack in Addit.

Field #	G-1	G-2	G-3				
Data		APCD ID Type of APCD Associated EIS release point ID				Descript	
Instruction		This column will be auto-populated based on your entries in the previous fields	Enter the EIS release point ID associated with this APCD, if any	Specify the manufacturer of APCD	Specify the model of APCD		
Response	CD-2	Wet scrubber		Ceilcote	SPT-54-240		
пеоропос	CD-3	Catalytic oxidizer		Donaldson	EtO Abator		

Does any of the information you entered in this tab contain confidential	NAMANAMANA
business information (CBI)? Select from the options in Cell N2 on the right $ ightarrow$	
If yes, be sure to shade the fields containing CBI in red , and follow the	
instructions specified in the Instructions Document	

ional Information tab (Section M)

-4		G-5		G-6			
n of APCD		Stack ID to which the APCD vents		-			
maximum capable volumetric flow of	Specify the <u>unit</u> of maximum capable volumetric flow of APCD	Enter from permit description, if available. Otherwise, use a unique identifier for each stack	Enter the stack height (feet)	Enter the stack diameter (feet)	Enter the temperature at stack outlet (Fahrenheit)	Enter the <u>exhaust</u> <u>velocity</u> at stack outlet <b>(feet/second)</b>	
2500.00	cfm	Stack S	55.00	1.00			
20000	cfm	Stack O	80.00	2.30			
	***************************************						
		<b>_</b>				-	

		i <del>-</del> 7	G-8	G-9	G-10	
	Stack coordinates		Year in which APCD was installed	Expected lifetime of APCD	Capital cost of APCD	
Enter the volumetric flow rate at stack outlet (cubic feet/second)		Enter the longitude of stack. Specify to the <u>6th</u> decimal point		Enter the expected lifetime of APCD (years)	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column
	31.860379 31.860486	-106.688767 -106.688677	2004 1991			

G-11		G-1.	2	G-12				
	cost of APCD	Other one-time	Annual monitoring					
Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	If any, specify other one-time costs of APCD (e.g., programming a data acquisition system)	Enter the <u>total</u> dollar <u>amount</u> in this column	Specify the	Enter the dollar amount in this column			

G-14		G-15					
g cost of APCD	Annual repair and routine maintenance cost of APCD		Other annual costs of APCD				
Specify the dollar <u>year</u> in this column	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	Describe other annual costs of APCD	Enter the total dollar <u>amount</u> in this column	Specify the dollar <u>year</u> in this column		

G-16			G-17		
Is a balancer/snubber system used to moderate EtO concentration before the gas stream enters the control device (e.g., a water bath that absorbs EtO)?	Performance test performed in				
Select from the dropdown menu in this column	Specify the dates of any performance test performed for each APCD in the last 5 years (mm/dd/yyyy). If there are multiple dates, separate by commas	Enter the <u>average</u> dollar <u>amount</u> for each performance test in this column	Specify the dollar <u>year</u> in this column		
Yes					
No	12/18/2015, 11/15/2016, 11/21/2017,				
	<u> </u>	<u> </u>	<u> </u>		

	G-18
he last 5 years (if any)	How does the APCD handle variability in flow rate and operameters?
Provide a copy of each performance test performed in the last 5 years <u>in its entirety</u> for each APCD	Provide a brief description about how the APCD handles varia and other relevant parameters
	Scrubbers are able to handle variability in process emission flo Catalytic oxidizers are equipped with air flow monitoring devi
Attach all requested documents in the "Attachments" tab	

other relevant
bility in flow rate
ows by having ces to ensure

Table 2. Emissions and CEMS

Field #	G-1	G-2	G	(	
Instruction Instruction Instruction De auto- populated based on your entries in the previous fields		Data APCD ID Type of APCD		ssion rate of APCD	Is any contin monitoring syste measure EtO con Af
		This column will be auto-populated based on your entries in the previous fields	Enter the <u>value</u> of peak hourly emission rate	Specify the <u>unit</u> of peak hourly emission rate	Select from the d this column
Response	CD-2	Wet scrubber			No (ski
•	CD-3	Catalytic oxidizer			No (ski
					110 (0.11
					***************************************
			<b>-</b>		
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			<b></b>		<b>_</b>
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20	G-21									
ious emissions m (CEMS) used to entration from the CD?	Description of the CEMS used to measure EtO concentration from the APCD									
opdown menu in	Enter the <u>type</u> of CEMS	Enter the manufacturer of CEMS	Enter the <u>model</u> of CEMS	Specify the <u>method</u> of detection of CEMS	Enter the <u>value</u> of detection level of CEMS					
to G-28) to G-28)										

	G-22	G-23	(	3-24	G-25			
	Year in which the CEMS was installed	Expected lifetime of the CEMS	Capital cost of measure EtO cor	the CEMS used to ncentration from the APCD	Installation cost of the CEMS used to measure EtO concentration from the APCD			
Specify the <u>unit</u> of detection level of CEMS		Enter the expected lifetime of the CEMS (years)	Enter the dollar amount in this column	Specify the dollar year in this column	Enter the dollar <u>amount</u> in this column	Specify the dollar <u>year</u> in this column		

G-26		G-27				
measure EtO co	he CEMS used to ncentration from APCD	Standards or work practices followed for the CEMS used to measure EtO concentration from the APCD	Engineering o			
Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	ear in the CEMS used to measure EtO concentration from the APCD				
			N/A			
			N/A			

	C 30		
r non-regulatory	G-28 emission test perfo	rmed in the last	5 years (if any)
any engineering nission test APCD in the last $\gamma$ ). If there are rate by commas	Enter the <u>average</u> dollar <u>amount</u> for each engineering emission test in this column	Specify the dollar <u>year</u> in this column	Provide a copy of each engineering or non-regulatory emission test performed in the last 5 years in its entirety for each APCD
			_
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			_
			Attach ali
			requested documents in the

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		"Attachments" tab

# Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

#### H. Details of Air Pollution Control Devices

Table 1. Wet Scrubber & Glygen Absorber Unit

Field #	G-1	H-1
Data	APCD ID	Design and operation specifications
Instruction	This column will be auto- populated based on your entries in the previous fields	Provide a brief description of the design and key operation specifications of the wet scrubber/glygen absorber unit
Response	CD-2	Wet scrubber is designed to treat high concentrations of EO from sterilizer vacuum pump emissions using an acid-water solution in a packed tower

#### Table 2. Dry-bed Scrubber

Field #	G-1	H-12
Data	APCD ID	Design and operation specifications
Instruction		Provide a brief description of the design and key operation specifications of the dry-bed scrubber
Response		

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right → If yes, be sure to shade the fields containing CBI in red, and follow the instructions specified in the Instructions Document

tin Specify the EG tank ID(s) each wet scrubber/glygen absorber unit feeds applicable. Ensure that any tank ID entered in this field is consistent with your entries in Field D-1 in the EtO & EG Storage tab. List all applicable EG tank IDs separated by commas
applicable. Ensure that any tank ID entered in this field is <u>consistent with your</u> <u>entries in Field D-1</u> in the EtO & EG Storage tab. List all applicable EG tank IDs

H-13	H-14	H-15	H-16	H-17
Type of media/sorbent used	Volume of media/sorbent	Year in which current media/sorbent was installed	Expected lifetime of media/sorbent	Can the media/sorbent be regenerated?
Specify the type of media/sorbent used for the dry-bed scrubber	Enter the volume of media/sorbent within the dry-bed scrubber (cubic feet)	year in which the current media/sorbent was	Enter the expected lifetime of the media/sorbent used (years)	Select from the dropdown menu in this column

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	H-5	
		Process/APCE
Enter the dollar amount in this column		Provide a brief desc scrubber/glygen ab sorbent material are
		Monitoring is condupermits being provi
	Annual cost of edition of the distance of the distance of the dollar amount in this	Annual cost of ethylene glycol (EG) disposal  Il Enter the dollar Specify the dollar amount in this year in this column

	H- Average cost of regenera			
How frequently is the media/sorbent regenerated, if applicable?	What method is used to regenerate the media/sorbent, if applicable?	How many times is the media/sorbent regenerated prior to disposal, if applicable?	To what removal efficiency is the media/sorbent restored after regeneration? (percent)	Enter the dollar amount in this column

H-6				H-7	
monitoring plan for wet scrubber/glygen absorber unit	t Parameter 1 monitored for wet scru				
iption of the process/APCD monitoring plan for the wet orber unit. Specify if measurements of the gas stream or part of these plans	<u>Name</u> of Parameter 1	<u>Set value</u> of Parameter 1	Unit of Parameter 1	Monitoring frequency of Parameter 1	
cted as required in the existing NESHAP and/or in the led; no separate plan is required.	Hq	2.00	pH	weekly	

19	H-20	H-21			H-22
a media/sorbent ion event	Sorbent disposal	Annual cost of sorbent disposal		Is the media/sorbent activity monitore way?	
Specify the dollar year in this column	Specify how sorbert is disposed (e.g., hazardous waste landfill, MSW landfill, etc.)	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	Select from the dropdown menu in this column	If yes, provide a brie column
				<b>-</b>	

				H-8		
bsorber unit	Parameter 2 monitored for wet scrubber/glygen absorber unit (if any)					
Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 1	<u>Name</u> of Parameter 2	<u>Set value</u> of Parameter 2	Unit of Parameter 2	Monitoring frequency of Parameter 2	Explain any <u>corrective</u> readings outside the Parameter 2	
add acid	liquor level	115.00	inches	weekly	remove scrubber liqu	

	H-23	H-24		
d or tested in any	Is the media/sorbent change out done based on manufacturer suggestion?	Process/APCD monitoring plan for dry-bed scri		
f description in this	Select from the dropdown menu in this column. If you select "No", be sure to enter a brief explanation	Provide a brief description of the process/APCD monitoring p scrubber. Specify if measurements of the gas stream or sorbe		
	between the parentheses "()"	of these plans		

	H-9						
<u>re actions</u> taken for limit(s) for	Parameter 3 monitored for wet scrubber/glygen absorber unit (if any)						
	Name of Parameter 3	<u>Set value</u> of Parameter 3	<u>Unit</u> of Parameter 3	Monitoring frequency of Parameter 3	Explain any <u>corrective</u> readings outside the Parameter 3		
uor	gas flow rate	2500.00	acfm	daily			

lbber lan for the dry-bed nt material are part	H-25 Parameter 1 monitored for dry-bed scrubber						
	<u>Name</u> of Parameter 1	<u>Set value</u> of Parameter 1	<u>Unit</u> of Parameter 1	Monitoring frequency of Parameter 1	Explain any <u>corrective</u> readings outside the Parameter 1		

	H-10 Parameter 4 monitored for wet scrubber/glygen absorber unit (if any)						
<u>re actions</u> taken for limit(s) for	Name of Parameter 4	<u>Set value</u> of Parameter 4	<u>Unit</u> of Parameter 4	Monitoring frequency of Parameter 4	Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 4		
	liquid temperature	100.00	°F	daily			

	H-26 Parameter 2 monitored for dry-bed scrubber (if any)						
<u>re actions</u> taken for limit(s) for	Name of Parameter 2	<u>Set value</u> of Parameter 2	Unit of Parameter 2	Monitoring frequency of Parameter 2	Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 2		

H-11
Monitoring records for wet scrubber/glygen absorber unit from the last calendar year
Provide all monitoring
records from the last
calendar year
Attach all requested
documents in the
"Attachments" tab

H-27 Parameter 3 monitored for dry-bed scrubber (if any)						Parame
<u>Name</u> of Parameter 3	Set value of Parameter 3	<u>Unit</u> of Parameter 3	Monitoring frequency of Parameter 3	Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 3	Name of Parameter 4	Set value of Parameter 4

	H-28		H-29
er 4 monitored for dry-bed scrubber (if any)			Monitoring records for dry-bed scrubber from the last calendar year
<u>Unit</u> of Parameter 4	Monitoring frequency of Parameter 4	Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 4	Provide all monitoring records from the last calendar year

Table 3. Catalytic Oxidizer & Balancer/Abator

Field #	G-1	H-30
Data	APCD ID	Design and operation specifications
Instruction	This column will be auto-populated based on your entries in the previous fields	Provide a brief description of the design and key operation specifications of the catalytic oxidizer or balancer/abator
Response	CD-3	Low concentration EO mixed with air is pulled into the system by a fan and

## Table 4. Thermal Oxidizer

Field#	G-1	H-50
Data	APCD ID	Design and operation specifications
Instruction		Provide a brief description of the design and key operation specifications of the thermal oxidizer
Response		

H-31	H-32	H-33	H-34	H-35
Type of catalyst	Volume of catalyst	Year in which current catalyst was installed	Expected lifetime of catalyst	Operating temperature of catalyst bed
Specify the type of catalyst used in catalytic oxidizer	(cubic feet)	Enter the calendar year in which the current catalyst was installed	Enter the expected lifetime of the catalyst used (years)	Enter the operating temperature of catalyst bed (Fahrenheit)
CARULITE® 500, 8 X 14 mesh Catalyst		2015		300.00

H-51	H-52	Н	-53	H-54		
Average operating temperature	Operating temperature records for thermal oxidizer from the last calendar year			Annual cost of natural gas used to heat the thermal oxidizer		
Enter the average operating temperature of thermal oxidizer (Fahrenheit)	Provide the operating temperature records for thermal oxidizer from the last calendar year	Enter the <u>amount</u> in this column	Specify the <u>unit</u> in this column	Enter the dollar amount in this column	Specify the dollar year in this column	

	***************************************	 ***************************************

Н	-36	H-37		H-38		H-39
	s usage to maintain g temperature		atural gas used by tic oxidizer	Annual cost of electricity used by the catalytic oxidizer or balancer/abator		Can the catalyst be regenerated?
Enter the <u>amount</u> in this column	Specify the <u>unit</u> in this column	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column	Enter the dollar amount in this column	Specify the dollar year in this column	Select from the dropdown menu in this column
						No (skip to H-42)

H-55			H-
Process/APCD monitoring plan for thermal oxidizer			Parameter 1 monitore
Provide a brief description of the process/APCD monitoring plan for the thermal oxidizer. Specify if measurements of the gas stream are part of these plans	Name of Parameter	<u>Set value</u> of Parameter 1	<u>Unit</u> of Parameter 1

	H-40			H-	
Catalyst renegeration					
How frequently is the catalyst regenerated, if applicable?	What method is used to regenerate the catalyst, if applicable?	How many times is the catalyst regenerated prior to disposal, if applicable?	To what removal efficiency is the catalyst restored after regeneration? (percent)	Enter the dollar amount in this column	
***************************************					

56 od for thermal oxi	dizer		Р	arameter 2 monitore	H-57 d for thermal oxidizer
Monitoring frequency of Parameter 1	Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 1	Name of Parameter 2	Set value of Parameter 2	Unit of Parameter 2	Monitoring frequency of Parameter 2

41	H-42	l l	H-43	H-44	
italyst regeneration ent	Catalyst disposal	Annual cost of	catalyst disposal	Process/APCD monitoring plan for ca	
Specify the dollar year in this column	Specify how catalyst is disposed (e.g., hazardous waste landfill, MSW landfill, etc.)	Enter the dollar amount in this column	Specify the dollar year in this column	Provide a brief description of the process catalytic oxidizer or balancer/abator. Spe stream or sorbent material are part of the	
	MSW landfill			Monitoring is conducted as required in th	
***************************************		***************************************			

(if any)		F	arameter 3 monitore	H-58 ed for thermal oxidiz	zer (if any)
Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 2	<u>Name</u> of Parameter 3	<u>Set value</u> of Parameter 3	Unit of Parameter 3	Monitoring frequency of Parameter 3	Explain any <u>corrective</u> readings outside the Parameter 3

alytic oxidizer or balancer/abator	H-45 Parameter 1 monitored for catalytic oxidizer & balancer/					
/APCD monitoring plan for the cify if measurements of the gas ese plans	Name of Parameter 1	Set value of Parameter 1	<u>Unit</u> of Parameter 1	Monitoring frequency of Parameter 1		
ne existing NESHAP and/or in the	Outlet temperature of catalyst bed	280.00	°F	Continuous or		

			Parameter 4 mon	H-59 itored for therm	ial oxidizer (if ai	ny)
<u>re actions</u> taken for limit(s) for	Name of Parameter 4	Set value of Paramet	er 4	<u>Unit</u> of Parameter 4	Monitoring frequency of Parameter 4	Explain any <u>corrective</u> readings outside the Parameter 4

pator	H-46 Parameter 2 monitored for catalytic oxidizer & balancer/abator (if any)					
Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 1	<u>Name</u> of Parameter 2	Set value of Parameter 2	<u>Unit</u> of Parameter 2	Monitoring frequency of Parameter 2	Explain any <u>corrective</u> taken for readings of limit(s) for Parameto	
	Pressure drop			monthly		

H-60
Monitoring records for thermal oxidizer from the last calendar year
Provide all monitoring records from the last calendar year

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				H-47		
	Parameter 3 monitored for catalytic oxidizer & balancer/abator (if any)					
<u>re actions</u> utside the er 2	Name of Parameter 3	Set value of Parameter 3	Unit of Parameter 3	Monitoring frequency of Parameter 3	Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 3	Name of Parameter 4
		***************************************				
						***************************************

		Attach all requested documents in the "Attachments" lab
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		H-48		H-49	
Parameter 4	monitored for c	atalytic oxidizer	& balancer/abator (if any)	Monitoring records for catalytic oxidize & balancer/abator from the last calendar year	
<u>Set value</u> of Parameter 4	<u>Unit</u> of Parameter 4	Monitoring frequency of Parameter 4	Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 4	Provide all monitoring records from the last calendar year	
				Attach all requested documents in "Attachments" tab	

## Table 5. Other APCDs

Field #	Field # G-1 H-61		
Data	APCD ID	Design and operation specifications	
Instruction  This column will be autopopulated based on your entries in the previous fields		Provide a brief description of the design and key operation specifications of the APCD	
Response			

	Attach all				
	requested				
	documents in the				
	"Attachments" tab				
	Accorning to				
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H-62		
Process/APCD monitoring plan for APCD		
Provide a brief description of the process/APCD monitoring plan for the APCD. Specify if measurements of the gas stream or sorbent material are part of these plans	Name of Parameter 1	<u>Set value</u> of Parameter 1
No monitoring plan required. See permits for device monitoring requirements		

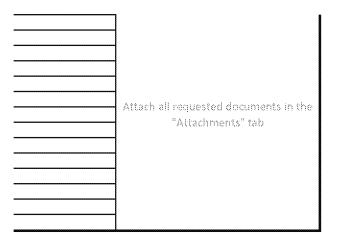
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Parameter 1 mon	itored for APCD			Parameter 2 monit	
<u>Unit</u> of Parameter 1	Monitoring frequency of Parameter 1	Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 1	Name of Parameter 2	<u>Set value</u> of Parameter 2	<u>Unit</u> of Parameter 2

54					H-65	
ed for APCD (if a	iny)			Parameter 3 monitored for APCD (		
Monitoring frequency of Parameter 2	Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 2	Name of Parameter 3	<u>Set value</u> of Parameter 3	Unit of Parameter 3	Monitoring frequency of Parameter 3	

у)	H-66 Parameter 4 monitored for APCD (if any)						
Explain any <u>corrective actions</u> taken for readings outside the limit(s) for Parameter 3	<u>Name</u> of Parameter 4	<u>Set value</u> of Parameter 4	Unit of Parameter	Monitoring frequency of Parameter 4	Explain any <u>corrective</u> readings outside the Parameter 4		

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	H-67
	Monitoring records for APCD from the last calendar year
<u>re actions</u> taken for limit(s) for	Provide all monitoring records from the last calendar year
	Attach all requested documents in the "Attachments" tab





# Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

Click here to return to Introduction tab Click here to visit Terms tab Click here to visit Additional Info tab

## I. EtO Monitoring

Table 1. Personal Monitoring (Badges) for EtO

List all personal monitoring events during the last 5 years

Field #	I-1	1-2	1-3
Data	Unique ID	Date	Description of Work Conditions
Instruction	Enter from test report or documentation, if available. Otherwise, use a unique identifier for each personal monitoring event	Enter date of the personal monitoring event (mm/dd/yyyy)	Provide a brief description of the work conditions of facility during each persona monitoring event
Response	4Q2019	4Q2019	Continuous operation for 8-hour badge
	3Q2019	3Q2019	Continuous operation for 8-hour badge
	2Q2019	2Q2019	Continuous operation for 8-hour badge
	1Q2019	1Q2019	Continuous operation for 8-hour badge
	4Q2018	4Q2018	Continuous operation for 8-hour badge
	3Q2018	3Q2018	Continuous operation for 8-hour badge
	2Q2018	2Q2018	Continuous operation for 8-hour badge
	1Q2018	1Q2018	Continuous operation for 8-hour badge
	4Q2017	4Q2017	Continuous operation for 8-hour badge
	3Q2017	3Q2017	Continuous operation for 8-hour badge
	2Q2017	2Q2017	Continuous operation for 8-hour badge
	1Q2017	1Q2017	Continuous operation for 8-hour badge
	4Q2016	4Q2016	Continuous operation for 8-hour badge
	3Q2016	3Q2016	Continuous operation for 8-hour badge
	2Q2016	2Q2016	Continuous operation for 8-hour badge
	1Q2016	1Q2016	Continuous operation for 8-hour badge
	4Q2015	4Q2015	Continuous operation for 8-hour badge
	3Q2015	3Q2015	Continuous operation for 8-hour badge
	2Q2015	2Q2015	Continuous operation for 8-hour badge
	1Q2015	1Q2015	Continuous operation for 8-hour badge

Table 2. Room Area Monitoring for EtO

Field #	B-1	I-9	
Data	Room area ID for all rooms and areas where EtO is used or emitted	Description of room area monitoring	EtO concentration
Instruction	This column will be auto-populated based on your entries in the previous fields	Provide a brief description of the monitoring procedure for each room	Enter the <u>average</u> EtO concentration (ppmv)

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right  $\rightarrow$  If yes, be sure to shade the fields containing CBI in red, and follow the instructions specified in the Instructions Document

	1-4		I-5	I-6
	Monitoring res	ult	Monitoring result flag	Averaging periods
Enter the	Enter the	Enter the minimum	Specify any action level, error, or flag of	Specify any averaging periods for each
average concentration monitored (ppm)	maximum concentration monitored (ppm)	concentration monitored (ppm)	monitoring result	personal monitoring event
	20.00	0.02	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	40.00	0.05	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	24.00	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	24.00	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	32.00	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	26.00	0.10	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	35.00	0.10	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	22.00	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	14.00	0.07	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	16.00	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	9.30	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	16.00	0.19	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	19.00	0.23	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	16.00	0.09	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	14.00	0.04	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	12.00	0.09	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	16.00	0.06	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	11.00	0.11	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	18.00	0.03	> 1ppm for 8-hr TWA	Time weighted average (TWA)
	13.00	0.06	> 1ppm for 8-hr TWA	Time weighted average (TWA)

I-10		I-11	I-12			I-13
of room area w emitted	here EtO is used or	How many measurement points are there within the room area?	What is the frequency of monitoring at each point within the room area?			Instrum
Enter the maximum EtO concentration (ppmv)	Enter the minimum EtO concentration (ppmv)		Specify the frequency of monitoring at each point within the room area	y the ins	trument use	d to monitor

Insti	I-7 rument 1	Instrum	I-8 ent 2 (if any)	
Specify the instrument used during each personal monitoring event	Enter the <u>value</u> of detection level of instrument		Specify the instrument used during each personal monitoring event	Enter the <u>value</u> of detection level of instrument
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
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3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		
3M badge 3551 with lab analysis	0.03	ppm		

i e		I-14		I-15
ent 1	lr	nstrument 2 (if any)		Action levels and SOPs for room area monitoring
detection level of	Specify the instrument used to monitor the room area	Enter the <u>value</u> of detection level of instrument	detection level of instrument	Provide documents specifying action levels and SOPs for room area monitoring

Sr	)er	·ifv	, th	 10	ur	 of
de	ete	cti	ior ne	ıle		
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Response	Chamber Module 1	
	Chamber Module 2	
	Chamber Module 3	
	Chamber Module 4	
	AR08	
	AR09	
	Chamber and warehousing	
	Scrubber Room	
		***************************************

## Table 3. Other Monitoring for EtO

Field #	Data	
I-16	Describe any other types of EtO monitoring that have been	The facility monitors EtO emissions based on performance tes
I-17	Describe any dispersion modeling efforts conducted by the	The facility monitors ethylene oxide emissions based on perfc
	facility	The facility does not have a program of performing air dispers
		outside a facility, since a ubiquitous background concentratio
		means of accounting for background concentrations. In some
I-18	Provide the records for any type of monitoring or modeling	Please see responses to I-16 and I-17.

***************************************		

#### Response

its and monitoring plans approved for APCDs under the NESHAP. The facility also conducts rmance tests and monitoring plans approved for air pollution control devices under the NESHAP. iion modeling, nor is such modeling likely to accurately estimate ambient air concentrations n of ethylene oxide exists in the atmosphere, and air dispersion models typically do not have a cases, air dispersion modeling is required for a permit application. If air dispersion modeling was requested documents in the "Attachments" tab

 ·	 ·		
			Attach ali
			requested documents in the "Attachments" tab

## Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

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#### J. Wastewater

Field #	J-1	J-2		J-3	J-4	
Data	Daily average wastewater flow rate for EtO commercial sterilization activities at the facility	Annual EtO emissions from wastewater at facility for the last 5 years		Average EtO concentration in wastewater when it leaves the vacuum pump or liquid-gas separator	Average EtO concentration in wastewater when collected in a holding tank or basin	Wastewater disp
Instruction	(gallons/day)	Enter <u>calendar year</u> Enter t in this column annual emissi columi ( <b>pound</b>	l EtO ons in this n	(ppmv)	(ppmv)	Briefly specify how EtO commercial ste
Response	0.00					

## K. Unique Cycles and EtO Reduction

Enter data for each individual category, respectively

If the facility does not plan to re-validate cycles in an effort to reduce EtO use, responses are not required for Fields K-2 through K-4 and K-7 I

Field #	K-1	K-2	K-3	K	-4
Data	How many unique cycles are run at this facility?	How many unique cycles have been re-	How many unique cycles does the facility still have	1	ike to complete re- these cycles?
	Í	validated thus far?	left to re-validate		
Instruction	Enter the amount of unique cycles	Enter the amount of unique cycles	Enter the amount of unique cycles	Enter the <u>value</u> in this column	Specify the <u>unit</u> in this column
Response for all the products in total					
Response for 510(k) products (Class I and Class II devices)					
Response for Pre-Market Approval (PMA) products (Class III devices)					

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right  $\rightarrow$  If yes, be sure to shade the fields containing CBI in red, and follow the instructions specified in the Instructions Document

J-5 nosal or treatment for EtO commercial sterilization activities	disposal or treatment for EtO commercial sterilization activities		J-7 Are there any other processes within the facility that generate EtO-laden wastewater?	the facility
wastewater is disposed of or treated for rilization activities	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column		List all other processes generating EtO-la within the facility. Enter one process per

### through K-13

K-5	K-6	K-7	K-
Cost of validating unique cycles	What is the current average EtO dose among the products?	What is the target average EtO dose?	What is the anticipa change in <u>number a</u> upon completion of
Provide information on the cost to validate a sterilization cycle, including: (1) hours of time for R&D engineers, operators, technicians, etc. to complete the sterilization cycle runs, compile the reports and file with the FDA; (2) costs for laboratory analyses; and (3) information on the length of time from start to finish (weeks) required to complete validation for a sterilization cycle	(mg/L)	(mg/L)	(percent)

But the second of the second o		J-:	11
		Annual cost of wastewater disposa or treatment for each process othe than EtO commercial sterilization	
	For each process, briefly specify how wastewater is disposed of or treated	Enter the dollar amount in this column	Specify the dollar <u>year</u> in this column
	Daily average wastewater flow rate for each process other than EtO commercial sterilization	Daily average wastewater flow rate for each process other than EtO commercial sterilization  (gallons/day)  Wastewater disposal or treatment for each process other than EtO commercial sterilization  For each process, briefly specify how wastewater is disposed	Daily average wastewater flow rate for each process other than EtO commercial sterilization  (gallons/day)  Wastewater disposal or treatment for each process other than EtO commercial sterilization  than EtO commercial sterilization  (gallons/day)  For each process, briefly specify how wastewater is disposed of or treated  Enter the dollar amount in this

8	K-9	K-10	K-11
ted average percent of nitrogen washes the re-validations?	change in <u>number of air washes</u> upon	What is the anticipated average percent change in time spent on gas washing upon completion of the re-validations?	What is the anticipated average percent change in <u>dwell period time</u> upon completion of the revalidations?
	(percent)	(percent)	(percent)

		J-12		
fo (i	waste r <u>all c</u> the nolud cor sterili	ewate opera e fac les b nme izatio	oth Et rcial on and	at O
		acti	vities)	

K-12	K-1	.3	
What is the anticipated average percent change in <u>aeration time</u> upon completion of the re-validations?	What are the anticipated annual cost savings from reduced EtO use?		
(percent)	Enter the dollar <u>amount</u> in this column	Specify the dollar <u>year</u> in this column	

## L. Other Questions regarding EtO Commercial Sterilization

Field#	Data	
L-1	How is EtO handled during malfunction events of process equipment (vented,	Malfunction of process equipment will s
L-2	How is EtO handled during malfunction events of APCD (vented, held within	A malfunction of the wet scrubber will t
L-3	Provide documentation of any studies done on quantifying EtO residuals in	Attach all
L-4	Are there generators on site to keep facility running in the event of a power	Facility does not have generators to pro
L-5	Provide percent emission reduction, associated costs, and description of	
L-6	Is the facility operating at full capacity or can current capacity increase to	

### Response

stop cycle and trigger a notification alarm. EtO is held within chamber. rigger a hold on chamber vacuum pumps to prevent EtO from discharging to requested documents in the "Attachments" tab

vide power in the event of an outage. The facility is designed and has

# Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

k here to return to int	here to visit Terms tab

# M. Additional Information

If you need extra space to provide any additional information within this survey, use this section below. For each entry, specify the tab n

Tab	Field #	
Facility Details	A-25	No SSM plans have been developed. SSM plans are not required to be developed by 40 C.F.R. § 63.360
Room Area	Table 2	No data available on NDOs.
EtO Monitoring	I-3 and I-4	Personal monitoring is conducted during all activities and tasks independent of respirator use.

Does any of the information you entered in this tab contain confidential	60000000000000000000000000000000000000
business information (CBI)? Select from the options in Cell N2 on the right $ o$	
If yes, be sure to shade the fields containing CBI in red , and follow the	
instructions specified in the Instructions Document	

ame and field number to which your answer refers

ame and field number to which your answer refers
Response
or any state in which Sterigenics operates.

# Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

# N. Attachments

Instructions: Attach all documents and records requested throughout this survey on this page. Corresponding field numbers and data descriptions are summarized in the table below. Ensure that any IDs referenced are consistent with data reported in this survey × 43 Steps to attach files to this Excel spreadsheet (1) Click on the field to attach files; (2) Go to the Insert tab  $\rightarrow$  Text, click Object; ...... A (3) In the Object dialog box, click the Create from File tab; (4) Click Browse, and select the file you want to insert; Hoose Wooder sign Box Y. & Footer (5) Select the Display as Icon check box, then click OK.

Field #	Data	Instruction	
A-21	Facility diagrams	Provide diagrams of your facility indicating all rooms,	
A-22	Process flow diagrams	Provide process flow diagrams of the EtO processes at your	
A-23	Most Recent Air Permit(s)	Provide the most recent air permit(s) approved for your	
A-24	Application Documents for the Most	Provide the application documents for the most recent air	
A-25	Startup, shutdown and malfunction	Provide the startup, shutdown and malfunction (SSM) plan	No SSM plans have
	(SSM) plan	approved for your facility	been developed.
			SSM plans are not
			required to be
			developed by
			40 C.F.R. § 63.360
			or any state in
			which Sterigenics
			operates.
A-42	Documentation for annual emissions	Provide calculations and supporting documentation for all	
G-17	Performance test performed in the last	Provide a copy of each performance test performed in the	
G-28	Engineering emission test performed in	Provide a copy of each engineering emission test performed	
H-11	Monitoring records for wet scrubber	Provide all monitoring records from the last calendar year	
H-29	Monitoring records for dry-bed	Provide all monitoring records from the last calendar year	
H-49	Monitoring records for catalytic oxidizer	Provide all monitoring records from the last calendar year	
H-52	Operating temperature records for	Provide the operating temperature records for thermal	
H-60	Monitoring records for thermal oxidizer	Provide all monitoring records from the last calendar year	
H-67	Monitoring records for APCD from the	Provide all monitoring records from the last calendar year	
I-15	Action levels and SOPs for room area	Provide documents specifying action levels and SOPs for	
I-18	Provide the records for any type of		Please see
	monitoring efforts you have mentioned		responses to I-16
	in Fields I-16 and I-17		and I-17.
L-3	Provide documentation of any studies		
N-1	Provide any process and		

Does any of the information you entered in this tab contain confidential business information (CBI)? Select from the options in Cell N2 on the right → If yes, be sure to shade the fields containing CBI in red, and follow the instructions specified in the Instructions Document

You may also elect to submit the documents and records requested throughout this survey through mail, email or other media (e.g., CD, DVD or thumb drive). See "Submitting Completed Surveys" section in the Introduction tab for instructions

ATTENTION - If any of the documents and records you choose to submit contains confidential business information (CBI), be sure to shade the corresponding fields in red and follow the instructions specified in the Instructions Document on how to handle and transport CBI

	Att	achments			
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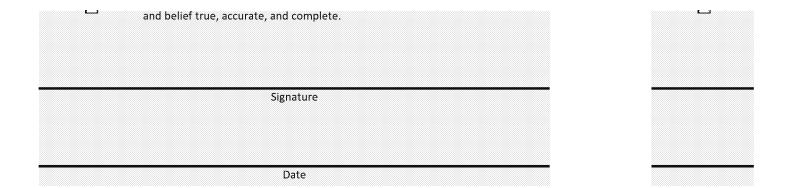
# Ethylene Oxide (EtO) Commercial Sterilization CAA Section 114 Survey

Click here to return to Introduction tab

cer anicación s	y Reporter	Certification b
	s below for the person who completes the survey and who is available for follow- y, on the information provided in this survey	Please complete the this survey (may be
Name		Name
Title		Title
Organization		Organization
Email		Email
Phone		Phone
Fax		Fax
General comment	S	General comments
	I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete.	
	Signature	
	Dete	
	Date	
Certification l	y Professional Engineer	Certification b
Complete the field in this survey	s below for the professional engineer (PE) who certifies the information provided	Complete the fields provided in this sur
Name		Name
Title		Title
Organization		Organization
Email		Email
Phone		Phone
Fax		Fax

			facility)			000000000000000000000000000000000000000
	that the state lief true, accura			n are to th	e best of m	y knowledge
		Signatur	re			
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Certi	fied Indust	rial Hygie	nist			
	or the certified	industrial hy	ygienist (C	IH) who ce	rtifies the i	nformation

I certify that the statements and information are to the best of my knowledge



and belief true, a	ccurate, and complete.	
	Signature	
15000000000000000000000000000000000000	D-1-	
	Date	

AK	A-5 & A-16	Δ-9	B-2
AZ			
ARR 251-500 EtO dispensing room CA > 500 Sterilizer room area CC Aration room area CT A-10 Aeration room DE Operating Sterilizer room area CT A-10 Aeration room DE Operating Cosed CE Seasonal/partial year APCD room FL Temporarily closed HI B-22 DD A-12 Yes DL Yes No (skip to B-38) NO (skip to B-38) NO (skip to A-13) NA B-23 KS A-19 Valve - gas KY Yes Valve - liquid LA NO Connector Flange - gas MD A-20 Flange - liquid MA S-250 Pump seal - liquid MA S-250 Pump seal - liquid MA S-250 Pump seal - liquid MI 251-500 Meter - gas MS 751-1000 Meter - gas MS 751-1000 Meter - liquid MO 1001-1250 Line MT > 1250 Other (double click to specify) NE NV B-36 NH Yes NV (skip to B-37) NM NY B-37 NC Yes ND NO (skip to B-38) OR APCD (fill out B-39 through B-56) Cascading (fill out B-57) RI Atmosphere (fill out B-58 through B-60) SC Other handling (fill out B-61) SD TX Rectangular (fill out B-46 & B-50 as appropriate) VT Rectangular (fill out B-47/48 & B-51/52 as appropriate) VT Rectangular (fill out B-47/48 & B-51/52 as appropriate) VY VA B-49 VY (skip to B-53) WY NO (fill out respective fields) WH PM MP PPW			
CA			
CO			
CT         A-10         Aeration room           DE         Operating         Shipping or warehouse           DC         Seasonal/partial year         APCD room           FL         Temporarily closed         Other (double click to specify)           HI         B-22           ID         A-12         Yes           IL         Yes         No (skip to B-38)           IN         No (skip to A-13)           IA         B-23           KS         A-19         Valve - gas           KY         Yes         Valve - liquid           LA         No         Connector           Flange - liquid         Flange - liquid           MA         \$ 250         Pump seal - liquid           MI         251-500         Pressure relief device           MN         501-750         Meter - gas           MS         751-1000         Meter - gas           MS         751-1000         Meter - gas           MS         751-1000         Meter - gas           NV         B-36         No (skip to B-37)           NB         Yes         No (skip to B-37)           NB         No (skip to B-38)           OH         Yes		- 300	
DE         Operating         Shipping or warehouse           DC         Seasonal/partial year         APCD room           FL         Temporarily closed         Other (double click to specify)           GA         Permanently closed         H           HI         B-22           ID         A-12         Yes           IL         Yes         No (skip to B-38)           IN         No (skip to A-13)         B-23           IA         B-23         Section (style)           KS         A-19         Valve - gas           KY         Yes         Valve - liquid           LA         No         Connector           Flange - liquid         Flange - liquid           MA         2.250         Pump seal - liquid           MI         251-500         Pressure relief device           MN         501-750         Meter - gas           MS         751-1000         Meter - liquid           MO         1001-1250         Line           MT         > 1250         Uher (double click to specify)           NE         No         Sex No           NH         Yes         No (skip to B-38)           NY         Yes         No (		A_10	
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MS       751-1000       Meter - liquid         MO       1001-1250       Line         MT       > 1250       Other (double click to specify)         NE       NV         NE       NV         NV       B-36         NH       Yes         NJ       NO (skip to B-37)         NM       NY         NY       B-37         NC       Yes         ND       NO (skip to B-38)         OH       OK         B-38       APCD (fill out B-39 through B-56)         Cascading (fill out B-57)       Atmosphere (fill out B-58 through B-60)         SC       Other handling (fill out B-61)         SD       Other handling (fill out B-61)         SD       TX         TX       Circular (fill out B-46 & B-50 as appropriate)         VT       VA         VA       Yes (skip to B-53)         WV       NO (fill out respective fields)         WI       WY         AS       GU         MH       FM         MP       PW			
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OH OK OK OK B-38  APCD (fill out B-39 through B-56)  Cascading (fill out B-57)  RI Atmosphere (fill out B-58 through B-60)  SC Other handling (fill out B-61)  SD TN B-45  TX Circular (fill out B-46 & B-50 as appropriate)  UT Rectangular (fill out B-47/48 & B-51/52 as appropriate)  VT VA B-49  WA Yes (skip to B-53)  WV No (fill out respective fields)  WI WY AS GU MH FM MP PW			
OK OR OR APCD (fill out B-39 through B-56) Cascading (fill out B-57) RI Atmosphere (fill out B-58 through B-60) SC Other handling (fill out B-61) SD TN B-45 TX Circular (fill out B-46 & B-50 as appropriate) UT Rectangular (fill out B-47/48 & B-51/52 as appropriate) VT VA B-49 WA Yes (skip to B-53) WV No (fill out respective fields) WI WY AS GU MH FM MP PW			THE (SKIP LE B SE)
OR APCD (fill out B-39 through B-56) PA Cascading (fill out B-57) RI Atmosphere (fill out B-58 through B-60) SC Other handling (fill out B-61) SD TN B-45 TX Circular (fill out B-46 & B-50 as appropriate) UT Rectangular (fill out B-47/48 & B-51/52 as appropriate) VT VA B-49 WA Yes (skip to B-53) WV No (fill out respective fields) WI WY AS GU MH FM MP PW			R-38
PA Cascading (fill out B-57) RI Atmosphere (fill out B-58 through B-60) SC Other handling (fill out B-61) SD TN B-45 TX Circular (fill out B-46 & B-50 as appropriate) UT Rectangular (fill out B-47/48 & B-51/52 as appropriate) VT VA B-49 WA Yes (skip to B-53) WV No (fill out respective fields) WI WY AS GU MH FM MP PW			
RI Atmosphere (fill out B-58 through B-60) SC Other handling (fill out B-61) SD TN B-45 TX Circular (fill out B-46 & B-50 as appropriate) UT Rectangular (fill out B-47/48 & B-51/52 as appropriate) VT VA B-49 WA Yes (skip to B-53) WV No (fill out respective fields) WI WY AS GU MH FM MP PW			
SC Other handling (fill out B-61) SD TN B-45 TX Circular (fill out B-46 & B-50 as appropriate) UT Rectangular (fill out B-47/48 & B-51/52 as appropriate) VT VA B-49 WA Yes (skip to B-53) WV No (fill out respective fields) WI WY AS GU MH FM MP PW			
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UT Rectangular (fill out B-47/48 & B-51/52 as appropriate) VT VA B-49 WA Yes (skip to B-53) WV No (fill out respective fields) WI WY AS GU MH FM MP PW			
VT VA B-49 WA Yes (skip to B-53) WV No (fill out respective fields) WI WY AS GU MH FM MP PW			
VA B-49  WA Yes (skip to B-53)  WV No (fill out respective fields)  WI  WY  AS  GU  MH  FM  MP  PW			
WA Yes (skip to B-53) WV No (fill out respective fields) WI WY AS GU MH FM MP PW			B-49
WV No (fill out respective fields) WI WY AS GU MH FM MP PW			
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C-3	CBI
	Yes
	No
NO (SKIP to C-5)	INU
C-7	
Yes	
No (skip to C-9)	
C-11	
Yes	
No	
D-10	
Yes (fill out D-11 through D-27)	
No (fill out D-28 through D-30)	
D-16	
Circular (fill out D-17 & D-21 as appropriate)	
Rectangular (fill out D-18/19 & D-22/23 as appropriate)	
	No (skip to C-9)  C-11 Yes No  D-10 Yes (fill out D-11 through D-27) No (fill out D-28 through D-30)  D-16 Circular (fill out D-17 & D-21 as appropriate)

Yes (skip to D-24) No (fill out respective fields)

D-20

E-3/E-4/E-5/E-11 Yes No E-21 Yes No (skip to E-29) E-29 Yes No (skip to E-37) E-38 ppm % LEL E-40 Yes No (skip to E-51) E-41 Yes No (skip to E-45) E-51 Yes (fill out E-52 through E-69) No (fill out E-70 through E-72) E-58 Circular (fill out E-59 & E-63 as appropriate) Rectangular (fill out E-60/61 & E-64/65 as appropriate) E-62 Yes (skip to E-66) No (fill out respective fields) E-73 Yes No (skip to E-111) E-74 Yes No (skip to E-75) E-75 No (skip to E-81) E-81 Yes (fill out E-82 through E-107) No (fill out E-108 through E-110) Circular (fill out E-89 & E-93 as appropriate) Rectangular (fill out E-90/91 & E-94/95 as appropriate)

E-92

Yes (skip to E-96)

No (fill out respective fields)

APCD Wet scrubber

Glygen absorber unit Dry-bed scrubber

Catalytic oxidizer

Thermal oxidizer

Balancer/abator

Other (double click to specify)

F-3	G-16	H-17	J-7
Aeration room	Yes	Yes	Yes
Aeration cell/chamber	No	No (skip to H-20)	No (skip to J-12)
F-4	G-20	H-22	
Yes	Yes	Yes	
No (skip to F-6)	No (skip to G-28)	No (skip to H-23)	
F-5		H-23	
Pull vacuum		Yes	
Multiple inlet and outlet vents on cell		No (double click to specif	īy)
Other (double click to specify)			
		H-39	
F-8		Yes	
Yes		No (skip to H-42)	

No (skip to F-9)

No (skip to F-22)

Yes (fill out F-23 through F-39) No (fill out F-40 through F-42)

Circular (fill out F-29 & F-33 as appropriate)

Rectangular (fill out F-30/31 & F-34/35 as appropriate)

**F-14** Yes

F-22

F-28

F-32

F-44 Yes

Yes (skip to F-36)

No (skip to F-45)

No (fill out respective fields)

F-4	E-1	APCD ID	APCD Type	000000000000000000000000000000000000000	200000000000000000000000000000000000000	G-1 with dups	G-1 with no dups
No	Chamber 1	0	0	0	B-39	CD-3	O I Milli ilo daps
No	Chamber 2	0	0	0		CD-3	
No	Chamber 3	O	0	0		CD-2	
No	Chamber 4	្	0	0		CD-2	
No	Chamber 5	CD-3	Catalytic oxidizer	CD-3		CD-2	
No	Chamber 6	CD-3	Catalytic oxidizer	CD-3		CD-2	
No	Chamber 7	0	0	0		CD-2	
No	Chamber 8	0	0	0		CD-2	
No No	Chamber 9 Chamber 10	0 0	0	0 0		CD-2 CD-2	
200000000000000000000000000000000000000	Chamber 11	0	0	0		CD-2 CD-2	
No	Chamber 12	0	0	0		CD-2	
No	Chamber 13	o O	0	0		CD-2	
0	Chamber 14	0	0	0		CD-2	
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CD-2 CD-3	Wet scrubber Catalytic oxidizer	CD-2 CD-3	Chamber Module 1 Chamber Module 2 Chamber Module 3 Chamber Module 4 AR08 AR09 Chamber and warehousing Scrubber Room 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Chamber Module 1 Chamber Module 2 Chamber Module 3 Chamber Module 4 AR08 AR09 Chamber and warehousing Scrubber Room
CD-3	Catalytic oxidizer	CD-3	Chamber Module 3 Chamber Module 4 AR08 AR09 Chamber and warehousing Scrubber Room 0 0 0 0 0 0 0 0 0 0 0 0	Chamber Module 3 Chamber Module 4 AR08 AR09 Chamber and warehousing
			Chamber Module 3 Chamber Module 4 AR08 AR09 Chamber and warehousing Scrubber Room 0 0 0 0 0 0 0 0 0 0 0 0	Chamber Module 3 Chamber Module 4 AR08 AR09 Chamber and warehousing
			Chamber Module 4 AR08 AR09 Chamber and warehousing Scrubber Room 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Chamber Module 4 AR08 AR09 Chamber and warehousing
			AR08 AR09 Chamber and warehousing Scrubber Room 0 0 0 0 0 0 0 0 0 0 0 0 0	AR08 AR09 Chamber and warehousing
			AR09 Chamber and warehousing Scrubber Room 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AR09 Chamber and warehousing
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# **Additional Info**

Facility Details
Room Area
EtO&EG Storage
Sterilizer Chambers
Aeration
APCD Summary
APCD Details
EtO Monitoring
Miscellaneous
Attachments
Certification

# **E-100** Yes (fill out E-107)

No

#### E-101

Yes

No (skip to E-111)

#### E-111

Yes

No (skip to E-133)

#### E-112

Yes (fill out E-113 through E-129)

No (fill out E-130 through E-132)

#### E-118

Circular (fill out E-119 & E-123 as appropriate)
Rectangular (fill out E-120/121 & E-124/125 as appropriate)

#### E-122

Yes (skip to E-126)

No (fill out respective fields)

#### E-133

Yes (fill out E-134 through E-143)

No (skip to F-1)

#### E-136

Once-through

Recirculating

Other (double click to specify)

### E-137

Wet seal with water

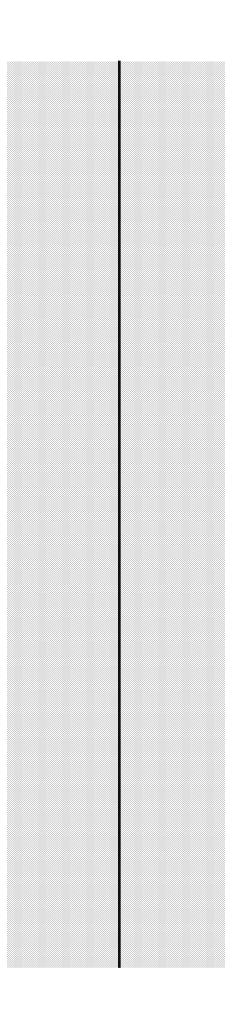
Wet seal with oil

Wet seal with other fluid

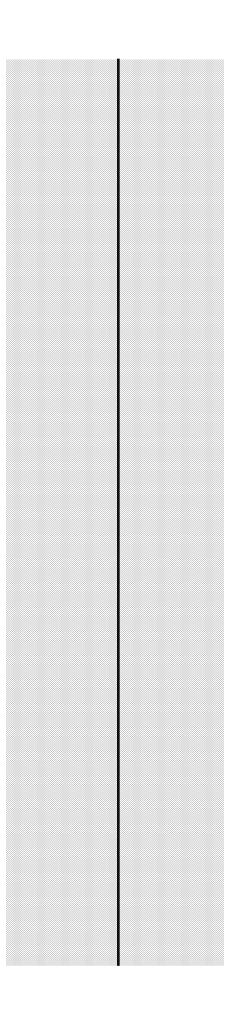
Dry seal

Other (double click to specify)

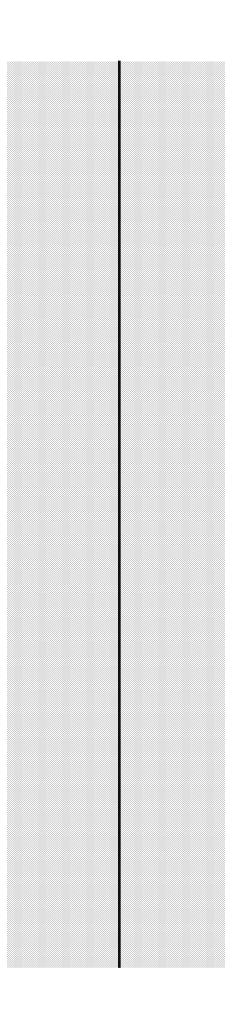
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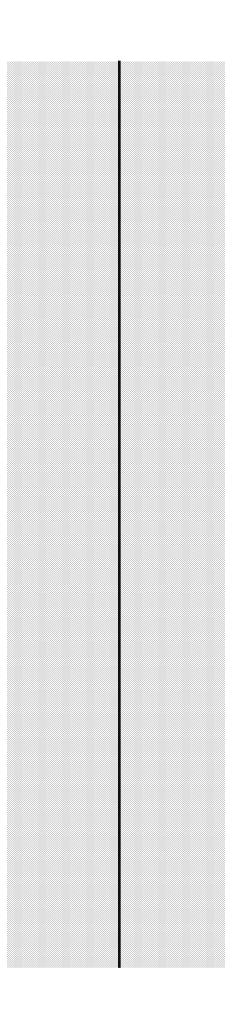
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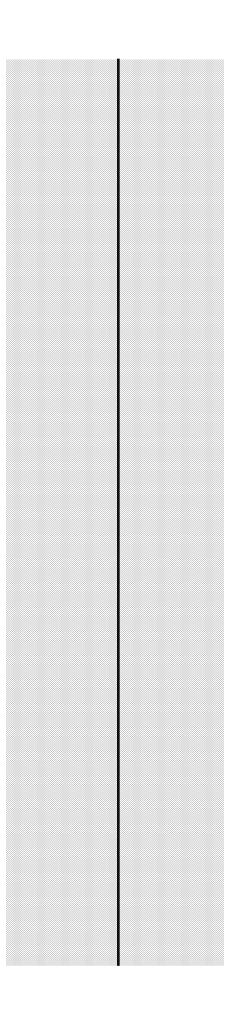
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